UNIVERSITY OF EXETER

The Role of Health-Related Cognitions in Help-Seeking for Depression

Submitted by Bethan Williams to the University of Exeter
as a thesis for the degree of Doctor of Clinical Psychology, April 2018.

I certify that all material in this thesis which is not my own work has been identified and that no material has previously been submitted and approved for the award of a degree by this or any other University.

Signature: 

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SCHOOL OF PSYCHOLOGY

DOCTORATE IN CLINICAL PSYCHOLOGY

LITERATURE REVIEW

The influence of health beliefs on help-seeking for depression

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Abstract

Depression accounts for the largest proportion of the burden associated with all mental health disorders and is predicted to be the second leading cause of the global burden of disease by 2020. Despite the apparent efficacy of prevention programmes, international rates of help-seeking for depression remain poor. Cognitive theories of help-seeking and empirical studies suggest that help-seeking for health conditions is largely determined by beliefs about the condition (e.g., likelihood and severity of the condition) as well as beliefs about help-seeking itself (e.g., how easy and beneficial it would be to get help). An understanding of the role of health beliefs in help-seeking for depression will hopefully close the gap between the number of people eligible for depression treatment and the number of people actually receiving it. A systematic review of literature was conducted to identify studies that examined the relationship between health beliefs and help-seeking for depression using the highest quality study design, i.e., experimental trial or prospective cohort. Six electronic databases were searched and a manual search of the reference lists of the included studies was conducted. Ten studies with a total of 7,878 participants were included in the review. In line with theories of health behaviour, what participants believed about depression and about preventive health action was related to whether they sought help; however, the association between beliefs and help-seeking varied across studies. Methodological issues and overall low study quality point to the need for high quality studies with clearly defined constructs and reliable and valid variable measurements. The findings of this review suggest that beliefs about depression are important targets for interventions aimed at improving rates of help-seeking for the illness.

Introduction

Depression is a mental health illness characterised primarily by low mood and loss of interest or pleasure in most activities (APA, 2013; Carr& McNulty, 2006). The effects of depression on the individual are multifaceted, including distorted cognition (e.g., extremely negative thoughts about themselves, the world, and the future), mood dysregulation (e.g., sadness, despair, and irritability), and behavioural dysfunction (e.g., failure to engage in activities that would bring a sense of achievement or connectedness with others; Carr& McNulty, 2006).Depression accounts for the largest proportion of the burden associated with all mental and neurological disorders (World Health Organisation [WHO], 2008). The disorder is predicted to be the second leading cause of the global burden of disease by 2020 (WHO, 2001) and the largest contributor to the disease burden by 2030 (WHO, 2008). Globally, over 300 million people are suffering from the disorder(WHO, 2018). In the UK, the prevalence of depression is increasing and an estimated 19.7% of people are suffering from the disorder(Office for National Statistics [ONS], 2016).

Prevention programmes are successful at reducing rates of depression (WHO, 2018).Prevention work takes various forms such as community-based programmes (e.g., promoting positive thinking among school children) and providing timely psychological support for individuals who are presenting with symptoms of depression (WHO, 2018).Psychological support includes talking therapies such as cognitive behaviour therapy (CBT). Reviews and meta-analyses indicate a robust evidence base for CBT in treating depression (Butler, Chapman, Forman,& Beck, 2006; Foroushani, Schneider, & Assareh, 2011; Hind et al., 2014).As with any illness, untreated depression can become worse and is associated with poorer long-term health outcomes (Cole, Bellavance, & Mansour, 1999). Indeed, symptom

severity at baseline predicts whether or not a diagnosis of persistent major depression is received six months later (Rubenstein et al., 2007). Approximately 20% of individuals will recover in the first week after diagnostic criteria for depression are met; however, after six months of the illness, recovery during a subsequent week falls to less than 1% (Patten, 2006). As such, early detection and treatment is critical.

Unrecognized depression may incur indirect costs to the economy, via reduced productivity, lost working days (morbidity), and lost life years (mortality). In fact, research implies that the indirect costs of depression outweigh the direct costs of depression treatment and service use. For example, one UK study estimated direct depression treatment costs to be £370 million, whilst the indirect costs of morbidity and mortality were estimated at £8 billion and £562 million respectively (Thomas & Morris, 2003). Overall, lost employment is estimated to account for 78-90% of the total cost of depression (Thomas & Morris, 2003; McCrone, Dhanasiri, Patel, Knapp,& Lawton-Smith, 2008). Further, the disease is associated with lower academic achievement (Hysenbegasi et al., 2005) and poorer work performance (Harvey et al., 2011).

Timely recognition of symptoms of depression has become a public health priority for the UK government (National Institute for Health and Care Excellence [NICE], 2016).Government guidance covers the courses of action to be taken for general practitioners (GP) and other health professionals if they suspect a patient may be suffering from the illness (NICE, 2016). However health professionals can only act to assess and treat depression to the extent that individuals experiencing symptoms present for help. Studies using UK and US samples show that only a third of people with depression seek treatment and many delay seeking that help, with most people waiting over a year before taking action (Bebbington et al., 2000;

Christiana et al., 2000; Wang et al., 2005) and a mean delay of eightyears (Christiana et al., 2000). Only 10-20% of individuals with depression visit their GP in any given 12-month period, although typically the visit is for a reason other than depression (Kirmayer, Robbins, Dworkind, & Yaffe, 1993).

Low rates of detection and help-seeking for depression have contributed to agap between the need for and the provision of treatment.Fewer than half of those affected in the world are receiving treatment (WHO, 2018).Depression left untreated has disastrous consequences, not only for individual wellbeing but socially and economically. For example, unrecognized depression is associated with a high prevalence of chronic medical problems, disability,physical complaints linked to somatization of symptoms, significant limitation of activities due to illness, increased use of medical servicesfor physical health issues, lostproductivity for businesses and lost wages for employees,and significant functional impairment even after controlling for comorbid anxiety disorders and physical healthconditions (Adler et al., 2006; Betrus, Elmore,& Hamilton, 1995; Katon, 1990; McQuaid, Stein, Laffaye, & McCahill, 1999).

People experiencing depression may struggle with the motivation and/or ability to adhere to treatment for other illnesses, including physical health problems. For example, among patients with diabetes, symptoms of depression are associated with lower adherence to diabetes medication, as well as with other aspects of diabetes self-care including physical activity and diet (Gonzalez et al., 2007; Lin et al., 2004). Delay in getting symptoms of depression recognized and treatedis associated with poorer prognosis (Rost et al., 1998).In comparison with the indirectcosts, costs for providing mental health treatment are relatively low (Blount et al., 2007). One randomized trial demonstrated that individuals whose depression

was treated had improved depression outcomes and reduced medical costs over a five-year period in contrast to individuals who were given usual primary care (Katon et al., 2008).

There is clearly a need for more research into the determinants of help-seeking for depression. Studies have identified individual and demographic correlates of delaying seeking help for suspected symptoms of depression: for example, being unaware of services (Eisenberg, Golberstein, & Gollust, 2007), low socioeconomic background (Eisenberg et al., 2007), ethnic minority status (Huang, Wong, Ronzio, & Yu, 2007), and being male (Rickwood & Braithwaite, 1994; Biddle, Gunnell, Sharp,& Donovan, 2004). However, the psychological mechanisms underlying the decision of whether and when to seek help are less well understood.

Cognitive theories of health behaviour such as the Health Belief Model (HBM) acknowledge the important role of individual and demographic factors (e.g., personality, age, gender, socioeconomic status) in shaping health beliefs, which in turn affect health behaviour (Abraham & Sheeran, 2005;Rosenstock, 1966, 1990). The HBM suggeststhat help-seeking to reduce risk and promote health is driven by what an individual believes about a health condition (e.g., likelihood and severity)as well as their beliefsabout help-seeking itself(e.g., how easy and beneficial it would be to get help; Abraham & Sheeran, 2005; Armitage & Conner, 2000; Rosenstock, 1966, 1990; Weinstein, 1993).Research suggests that the decision to seek help to reduce risk and enhance health is underpinned by a multitude of beliefs that serve to increase or decrease the likelihood of action, including perceived benefits of preventive action, expected barriers, beliefs about the severity of the illness and personal susceptibility, and perceived self-efficacy (Abraham & Sheeran, 2005; Rosenstock, 1966, 1990).Evidence suggests that health beliefs are instrumental in

whether and when people will seek help for mental health problems, including depression (Elwy et al., 2016; Jorm et al., 2000). However, cognitive models of preventive health action have been developed and tested primarily in relation to physical health behaviours, such as quitting smoking to reduce the risk of lung cancer (Abraham & Sheeran, 2005; Armitage & Conner, 2000; Rosenstock, 1966, 1990; Weinstein, 1993).

An overview of evidence for the role of health beliefs in help-seeking for depression is lacking, especially when compared to the physical health literature. There is a need for insight into the beliefs that influence depression help-seeking and the nature of these associations, to enhance understanding of the cognitive precedents of readiness to seek help as well as to inform effective interventions aimed at challenging beliefs that delay people in taking preventive action (Henshaw & Freedman-Doan, 2009).A systematic review of literature was conducted to identify studies that examined the relationship between health beliefs and help-seeking for depression using the highest quality study design according to the levels of evidence framework (OCEBM Levels of Evidence Working Group, 2011).By including studies with the most robust designs, i.e., experimental trials andprospective cohorts, it was hoped that tentative inferences about causality among health beliefs and help-seeking could be made, in order to provide targets for public health campaigns aimed at promoting help-seeking for depression.

Method

The review was conducted according to the PRISMA protocol (Moher, Liberati, Tetzlaff, Altman, & the PRISMA Group 2009).

Eligibility Criteria

Participants. Studies were eligible for inclusion if they sampled adults aged 18 or over. No limitations were placed on the depression status of participants or whether or not they had prior experience of seeking help for depression.

Intervention/Exposure. Eligible studies were those that assessed the association between health beliefs and professional help-seeking for depression. Variations in health beliefs were captured by measuring them as they naturally occur across individuals or by experimental manipulation, depending on study design (i.e., observational or experimental). The conceptualisation of health beliefs was guided by the HBM (i.e., perceived benefits of seeking help, perceived barriers to seeking help, perceived susceptibility to depression, perceived severity of depression, and perceived self-efficacy in relation to seeking help) and included beliefs about depression and/ortreatment (Abraham & Sheeran, 2015).Studies which examined mental health perceptions that were not specifically beliefs about depression and/or treatment, such as perceived mental health stigma,or tested attitudinal models of behaviour (e.g., the Theory of Planned Behaviour, Ajzen, 1991) were excluded.

Comparator. The comparator was natural variations in health beliefs if measured observationally, or, in experimental designs, any control group in which health beliefs were not manipulated.

Outcome. Studies were eligible if they measured professional help-seeking for depression as an outcome. This is in line with current UK health guidelines that state

that if an individual suspects they have depression help should be sought from a medical professional as the first point of contact (NICE, 2016). Help-seeking for mental health problems was defined as “an adaptive coping process that is the attempt to obtain external assistance to deal with a mental health concern” (p.180, Rickwood& Thomas, 2012). Help-seeking can be assessed in a variety of ways and included studies were rated on the quality of the measurement employed (e.g., self-report, medical records).

Studies that measured help-seeking from solely non-medical informal sources (e.g., family, friends, the internet) were excluded because this may represent an early form of help-seeking or an alternative to medical help-seeking and is likely to be associated with a different decisional pathway, including timing and the factors that lead an individual to seek this type of help (Brown et al., 2014; O’Mahen & Flynn, 2008; Townsend, Gearing, & Polyanskaya, 2012). Studies which measured help-seeking intentions and not actual help-seeking behaviour were excluded.

Study Design. Included studies were those that used the highest quality study design according to the levels of evidence framework, i.e., experimental trials or prospective cohort studies (OCEBM Levels of Evidence Working Group, 2011). Studies were eligible if they used quantitative methods to measure health beliefs and help-seeking behaviour and to analyse the association among these variables; studies that used qualitative methodology only were excluded.

Information Sources

The search was carried out in December 2017. Six electronic databases were searched: Medline, Medline In Process, Embase, Web of Science, Scopus and PsycINFO. Due to resource limitations, grey literature was not searched. No limitations were placed on date or type of publication.

Search Strategy

The search terms (see Table 1) were structured in relation to the following concepts: beliefs (“belief”, “believe”) seeking (e.g., “seek”, “consult”), help (e.g.,“help”, “support”) and depression (e.g., “depression”, “low mood”).Truncations were used to identify all possible endings of the stem of a word (e.g. "depress*" would retrieve "depression", "depressed", “depressive”, “depressogenic”, and “depressant”). Articles were searched in the abstract.

Table 1.

Search terms for the systematic review question. Words within constructs were combined with 'or'and the constructs were combined with 'and'.

Construct	Search terms
Health beliefs	Belief* Believe
Help	help* support advice treatment
Seeking	seek* pursu* ask* consult*
Depression	depress* "low mood" dysphor*

Study Selection

Firstly, record titles and abstracts were screened against the eligibility criteria. Secondly, full texts were reviewed, with reasons for exclusion noted (Figure 1). A manual search of the reference lists of all included studies was conducted. Citations were stored in the electronic bibliographic database Mendeley (Mendeley Ltd, Elsevier) and duplicate publications were deleted. A second rater reviewed six studies at the full text screening stage, with 100% agreement on their inclusion in the review, indicating a reliable eligibility screening procedure.

Data Extraction

Data were extracted from the included studies independently by the author. The relevant information was copied and pasted into a Microsoft Word table and was of the following categories: study characteristics (authors, year, country, sampling context);participantcharacteristics (age, depression status);measure characteristics for variables of interest (i.e., health beliefs, help-seeking); covariates; and findings (i.e., association between health beliefs and help-seeking). Where possible, effect sizes for the association between health beliefs and help-seeking were extracted.

Quality Assessment

The quality of the included studies was assessed using the Effective Public Health Practice Project (EPHPP) tool for quantitative studies (EPHPP, 1998; Appendix). The EPHPP tool was developed for use in public health, can be applied to quantitative studies in any public health topic area, and is suitable for both experimental studies and prospective cohort studies (National Collaborating Centre for Methods and Tools, 2008). The tool demonstrates acceptable content and construct validity and inter-rater reliability (Kappa = .74; Thomas, Ciliska, Dobbins, & Micucci, 2004). The tool uses a scoring system to rate studies as strong, moderateor weak in six sections:selection bias, study design, confounders, blinding, data collection methods, and withdrawals and dropouts.

A second rater assessed the quality of three studies included in the review. Cohen's kappa for the level of agreement was .83, indicating acceptable inter-rater reliability (Cohen, 1960). Disagreements in ratings were discussed and a consensus was reached on all differences.

Results

Study Selection Process

Figure 1shows the study selection process. After screening at the abstract stage, the majority (99.4%, *n* = 2,176) of publications were excluded, mostly because they were not relevant to the present research question; the main reasons being that they did not examine the relationship between health beliefs and help-seeking for depression or they examined help-seeking in relation to other disorders. All of the studies reviewed at full-text stagewere peer-reviewed journal articles.

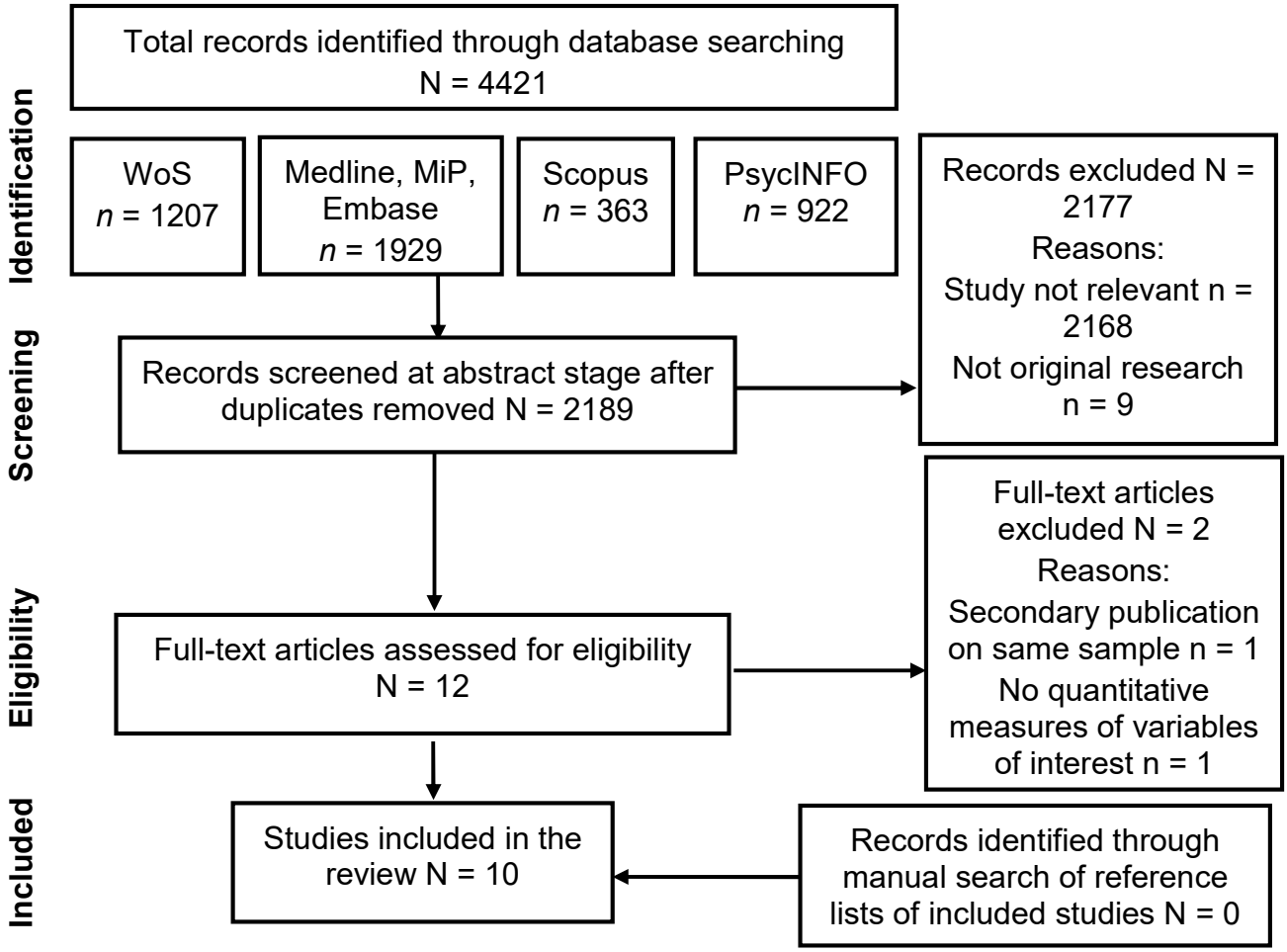

*Figure 1.*Flowchart of study identification, review and selection. WoS = Web of Science, MiP = Medline in Process. Medline, MiP and Embase were searched from the same search platform.

Description of Studies

The study and sample characteristics of the 10 included studies are presented in

Table 2.

Table 2.

Characteristics of the included studies (n=10).

Authors (year)	**Country & context**	**Sample size**	**Sample age (years)**	**Sample depression status**	**Health beliefs measure (cohort studies)/ health beliefs intervention description (experimental studies)**	**Covariates (cohort studies)/ comparator (experimental studies)**	**Help-seeking measure**	**Association among beliefs and help-seeking[a] (cohort studies)/ effects of the intervention (experimental studies)**	**Strengths/ weaknesses**	**Quality rating**
Cohort studies (*n*=6)										
Elwy et al. (2016)	US Veterans receiving primary care	271	Mode age range 51-60 (*n*=74, % = 27.5)	Positive depression screen (≥ 3 on the PHQ-2 or ≥ 3 on the PHQ-10)	Illness Perceptions Questionnaire -Revised (IPQ-R)	Age, sex, past depression treatment, PHQ score, primary care site-specific random effects	Review of medical records to assess treatment utilization	Symptoms are unrelated to depressed mood↓(β = -1.28) You can personally control your depressive symptoms↓(β = -0.86) Symptoms come & go↓(β = -0.50) Attributing the cause of depression to family problems↓(β = -0.68) Control of your	*Strengths*: Receipt of guideline-concordant treatment was formally assessed. *Weaknesses*: Length of follow-up between measurement of health beliefs and assessment of help-seeking is unclear	*Weak* A = Fair B = Fair C = Good D = Poor E = Good F = Poor

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								symptoms is not up to you (external control)↑(β = 1.10) Attributing the cause of depression to poor health **NS**(β = 0.21) Attributing the cause of depression to risky behaviour **NS**(β = 0.46) Belief that depression has serious consequences **NS**(β = -0.70)		
Jorm et al. (2000)	Australia Adults on	422	Not reported	Positive depression screen (≥ 4	Vignette of a person suffering from	Age, gender, education, marital status,	Self-reported use of a	Professional intervention for depression is	*Strengths*: Comprehensive range of	*Weak* A =

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	the electoral roll			on the GHQ-12)	major depression used in previous research in which participants rated whether 34 different interventions for depression were helpful.	health insurance status, area of living, depression history, anxiety/ depression symptoms	number of interven-tions (including profess-ional sources)	helpful ↑(β = 1.92 for association with professional help-seeking as determined by initiation of antidepress-ants)	depression interventions assessed for use *Weaknesses*: Low baseline response rate (39%). Strength of beliefs was not assessed	Poor B = Fair C = Good D = Poor E = Poor F = Fair
Mojtabai et al. (2016)	US Adults taking part in a general populatio nsurveya bout the prevalenc e of mental	5,001	Not reported	Proportion of sample meeting criteria for mood, anxiety or substance use disorder was 49.2%	Beliefs about effectiveness of professional help and likelihood of recovery without it were assessed by 2 questions	Sex, race, ethnicity, age, education, employment, family income, health insurance, mood, anxiety or substance use disorders (and associated level of	Self-reported professio nal help-seeking	Beliefs about effectiveness of professional help and likelihood of recovery without it**NS**(AOR = 0.97-1.04)	*Strengths*: Large population survey *Weaknesses*: Examined the association between attitudes and any help	*Weak* A = Good B = Fair C = Good D = Poor E = Poor F =

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	health disorders					interference),suicidal ideation, plans, or attempts, help seeking from professionals; and psychiatric disorders, interference, and suicidality at follow-up			seeking over 11-year period; Individual attitudes might have changed thus attenuating associations with help-seeking	Good
Murphy et al. (2013)	UK Primary care patients	67	Median (inter-quartile range) = 29 (21.8 - 40.3)	Moderate symptoms of depression (PHQ-9 mean score of 17.9)	Initial Appointment Questionnaire (IAQ)	None reported	Review of medical records to determine attend-ance at first appoint-ment	Talking to a therapist will help you to understand better how your mind works↑(Linear-by-linear = 8.7) All other IAQ items (*n* = 20) **NS**(Linear-by-linear	*Strengths:* Objective assessment of help-seeking means external validity is high *Weaknesses:* Small sample;	*Weak* A = Fair B = Fair C = Poor D = Poor E = Poor F = Poor

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								associations not reported)	absence of information on sample background variables which may be associated with help-seeking	
Stecker & Alvidrez (2007)	US Patients at a university-based family medical centre	29	Mean = 46	Recent diagnosis of depression in their medical record	Beliefs about Psycho-therapy Scale (BAP)	None reported	Self-reported initiation of depress-ion treatment	All BAP items (*n* = 15) **NS** (χ^2= .329)	*Strengths:* The BAP assesses a broad range of beliefs about treatment for depression *Weaknesses:* Small sample; lack of information	*Weak* A = Fair B = Fair C = Poor D = Poor E = Good F = Poor

Table 2.

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Authors (year)	**Country & context**	**Sample size**	**Sample age (years)**	**Sample depression status**	**Health beliefs measure (cohort studies)/ health beliefs intervention description (experimental studies)**	**Covariates (cohort studies)/ comparator (experimental studies)**	**Help-seeking measure**	**Association among beliefs and help-seeking[a] (cohort studies)/ effects of the intervention (experimental studies)**	**Strengths/ weaknesses**	**Quality rating**
									on sample background variables which may be associated with help-seeking	
van Zoonen et al. (2016)	Netherlands Adults taking part in a survey about the course of anxiety and depression, from the general populatio	235	Mean (*SD*) = 43.3 (13.4)	Subclinical depression (score of > 19 on the Kessler Psychological Distress Scale 10 (K10) but did not meet diagnostic criteria for depression according to the Composite	Short version of the Trust in mental health care questionnaire	Attitude at baseline, change in mastery, change in symptom severity	Self-reported professional help-seeking	Participants who not sought help at baseline or follow-up reported significantly more negative attitudes towards professional care compared to participants who had not sought help at baseline but	*Strengths:* Examined the association between change in variables of interest across time. *Weaknesses:* Low variation in some variables which reduces	*Weak* A = Poor B = Fair C = Poor D = Poor E = Poor F = Poor

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	n, general practices and mental health care centres			International Diagnostic Interview				had sought help at follow-up (β = -0.28).	statistical power: only 4% (*n* = 9) indicated that they had not sought help at baseline but had sought help at follow-up and no change in depressive symptoms between baseline and follow-up.	
Experimental studies (*n*=4)										
Costin et al. (2009)	Australia Adults on the electoral	348	Mean (*SD*) = 21.4 (1.5)	High distress group (≥ 22 on the K10) Low distress	Each week for three weeks, participants received a personalized	Each week for three weeks, participants received health e-cards	Self-reported profess-ional help-	No effect was found of the intervention on help-seeking.	*Strengths:* Controlled for pre-existing help-seeking behaviour.	*Weak* A = Poor B =

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Authors (year)	Country & context	Sample size	Sample age (years)	Sample depression status	Health beliefs measure (cohort studies)/ health beliefs intervention description (experimental studies)	Covariates (cohort studies)/ comparator (experimental studies)	Help-seeking measure	Association among beliefs and help-seeking[a] (cohort studies)/ effects of the intervention (experimental studies)	Strengths/ weaknesses	Quality rating
	roll			group (≤ 21 on the K10)	email with a link to an online 'Health e-card' that provided information about depression and help-seeking (basic intervention condition) or extended practical information about help-seeking (enhanced intervention condition).	containing information about health issues not directly related to depression	seeking	The intervention resulted insignificantly more positive beliefs about formal sources of help for depression, but had no effect on beliefs about informal sources of help or treatments for depression (effect sizes not reported).	*Weaknesses:* Follow up period of three weeks post-intervention may not have been long enough to capture changes in help-seeking behaviour.	Good C = Good D = Poor E = Poor F = Fair
Edlund et al. (2008)	US Veterans receiving	360	Mean = 59.2	Positive depression screen (score ≥	By phone participants received information	Treatment as usual and informed about the intervention	Review of medical records to determine	No effect was found of the intervention on help-seeking.	*Strengths:* Controlled for pre-existing help-seeking	*Weak* A = Fair B =

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	primary care			12on the PHQ-9)	about depression and help-seeking, and support in identifying and challenging health beliefs based on the HBM that would prevent them from help-seeking.	website which contained mental health educational resources.	initiation of depress-ion treatment	The intervention resulted in a decrease in concern about becoming addicted to anti-depressants(β = -0.34). The control group resulted in an increase in the belief that depression is an illness of the brain (β = 0.34). Beliefs associated with help-seeking across	behaviour. *Weaknesses:* Sample was biased towards rural, male, and older participants and generalis-ability may be limited	Good C = Good D = Poor E = Poor F = Fair

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								conditions: Anti-depressants for depression would be helpful↑(OR = 0.66) Disagreeing that you should be able to handle depression symptoms alone↑(OR = 1.29) Disagreeing that you would worry about becoming addicted to an anti-depressant↑(OR = 1.37)Disagreei		

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								ng that there are other medical conditions more important than your depression↑(OR = 1.56) Disagreeing that there are other problems in your life more important than your depression↑(OR = 1.33) All other DBI items (*n* = 15) **NS**(β = 0.004 – 0.20).		
Jorm et	Australia	1094	Mean =	Positive	Given a guide	Given a brief	Self-	No effect was	*Strengths:*	*Weak*

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al. (2003)	Adults on the electoral roll		44.83	depression screen (score of > 22 on the K10)	containing basic information about depression and help-seeking and detailed reviews of different types of treatments.	brochure published by the Australian government containing basic information about depression and help-seeking	reported professional help-seeking and use of interventions	found of the intervention on formal help-seeking. The intervention resulted in an increase in the number of effective interventions believed to be helpful (effect sizes not reported)	Large sample *Weaknesses:* Low response rate (20%) from the sample that was screened	A = Poor B = Good C = Poor D = Good E = Poor F = Poor
Kauer et al. (2017)	Australia Adults accessing social media and online	51	Mean (*SD*) = 20.9 (2.0)	Proportion of sample meeting criteria for high distress (K10 > 19) was 76.5%	Asked to search for help using an online program aimed at providing personalised	Asked to search for information and help for an issue they were currently facing using whatever strategies they would normally	Self-reported professional help-seeking	No effect was found of the intervention on help-seekingor on beliefs, which were four items, created for	*Strengths:* Intervention was developed according to the Medical Research Council	*Weak* A = Poor B = Good C = Good

Table 2.

Characteristics of the included studies (n=10).

Authors (year)	Country & context	Sample size	Sample age (years)	Sample depression status	Health beliefs measure (cohort studies)/ health beliefs intervention description (experimental studies)	Covariates (cohort studies)/ comparator (experimental studies)	Help-seeking measure	Association among beliefs and help-seeking[a] (cohort studies)/ effects of the intervention (experimental studies)	Strengths/ weaknesses	Quality rating
	platforms				information about help-seeking options based on type and severity of issues and treatment preference	use, whether online or offline		purpose of the study (effect sizes not reported)	guidelines and underpinned by a validated theoretical framework (Theory of Planned Behaviour) *Weaknesses:* Not specifically about seeking help for depression but for a range of mental health disorders, which may be underpinned	D = Fair E = Poor F = Fair

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									by different patterns of health beliefs and help-seeking. Underpowered to detect statistically significant effects.	

SD = standard deviation, PHQ = Patient Health Questionnaire, GHQ = General Health Questionnaire, HBM = Health Belief Model, PTSD = post-traumatic stress disorder, NA = not applicable, DBI = Depression Beliefs Inventory, OR = odds ratio, AOR = adjusted odds ratio based on coefficients from logistic regression models, ↑= belief is significantly positively associated with help-seeking, ↓ = belief is significantly negatively associated with help-seeking, NS = no significant association between the belief and help-seeking.

[a]Associations were considered significant if they reached at least the .05 probability level of significance.

[b]Effect sizes using partial eta squared were reported due to study being underpowered to detect statistical significance.

*Note.*For quality assessment, the overall rating is given followed by the ratings for the individual subscales. An overall rating of 'strong' is assigned if the study was awarded no 'poor' ratings on any of the subscales, an overall rating of 'moderate' is assigned if the study was awarded no greater than one 'poor' rating on any of the subscales, and an overall rating of 'weak' is assigned if the study was awarded two or more 'poor' ratings on any of the subscales. For the subscales, A = selection bias, B = study design, C = confounders, D = blinding, E = data collection methods, F = withdrawals and drop-outs.

Sample and Study Characteristics

Six of the included studies were prospective cohort studies. Four were experimental studies, with three of these being randomized controlled trials. Edlund et al. (2008) described their study as a 'randomized trial' involving random assignment to the intervention or control condition but did not provide details of the allocation process. If no information about the method of randomization is supplied then the study should be described as a controlled clinical trial (CCT; EPHPP, 1998).

The studies were conducted across four countries with sample size ranging from 29 to 5,001. Participants were sampled from a variety of sources including the general population using surveys about issues related to the study question (four studies), medical practices and healthcare settings (four studies), a mixture of these two sources (one study), and social media and online platforms (one study). Two studies specifically targeted military personnel for their sample, following the high prevalence of mental health disorders and low rates of help-seeking in this group (Edlund et al., 2008; Elwy et al., 2016)

Mean sample age ranged from 20.9 to 59.2 years. Two studies did not report the average age of the sample and one study described the modal age range (51-60 years; Elwy et al., 2016). Seven studies only included participantswho were showing symptoms of depressionat the point of entry. The remaining three studies included at least a proportion of participants showing signs of depression or another mental health disorder: Costin et al. (2009) included a 'high distress group' with a positive depression screen on the K10, Mojtabai et al. (2016) indicated that 49.2% of their sample met the criteria for depression or another mental health disorder, and

Kaueret al. (2017) reported that the majority of their participants (76.5%) had a positive depression screen according to the K10.

Health beliefs were measured using a variety of questionnaires and items. Jorm et al. (2000) employed a vignette of a person suffering from major depression and treatment beliefs were assessed by asking participants to rate whether a number of different interventions for depression were helpful.

In all studies, the measure of help-seeking referred to the participants' own behaviour.Whether professional help was sought for depression was assessed via medical records in three studies; the remaining studies used self-report.

The cohort studies generally tested the association between health beliefs measured at baseline and help-seeking measured after varying periods of follow-up: three months (Elwy et al., 2016; Stecker & Alvidrez, 2007), six months (Jorm et al, 2000), 4 years (van Zoonen et al., 2016), and 11 years (Mojtabai et al., 2016). Murphy et al. (2013) examined the relationship between health beliefs and subsequentattendance or nonattendance at a scheduledfirst treatment appointment but the average time delay between measurements was not reported. The covariates included in analyses were demographic characteristics (e.g., age, gender) and clinical features (e.g., level of depression, prior help-seeking experience).

In the experimental studies, the interventions were generally aimed at providing information to modify knowledge and beliefs about depression and about help-seeking. The studies examined the impact of the intervention on health beliefs and on help-seeking. The interventions were delivered online (two studies), via phone (one study), or as a physical booklet (one study). In three studies the intervention was implemented on a single occasion. Costin et al.'s (2009) study was the exception, sending participants an email once a week for three weeks with a link

to an online ‘health e-card’ about depression and help-seeking. Edlund et al. (2008) explicitly described components of the intervention that actively addressed beliefs that could impinge on help-seeking, with participants supported in identifying and challenging the beliefs. Three studies used an active control group, in which participants received a version of the intervention that was about health issues other than depression or did not provide as much information or support in relation to help-seeking. One study used an inactive control group (i.e., treatment as usual; Edlund et al., 2008).

Follow-up periods in the experimental studies ranged from one week to six months, with some interventions including more than one follow-up. Specifically, the points of follow-up in each study were: one week (Kauer et al., 2017), three weeks (Costin et al., 2009), one month (Kauer et al., 2017), and six months (Edlund et al., 2008; Jorm et al., 2003).

The association among health beliefs and help-seeking for depression. The association between health beliefs and help-seeking for depression varied across studies (Table 2). This section summarises the beliefs that were found to be significantly related to help-seeking in at least one study.It is difficult to summarise the amount of variance in help-seeking explained by beliefs due to lack of reporting of effect sizes in several studies.

Prospective cohort studies. A range of health beliefs were associated with subsequent help-seeking for depression in the cohort studies.Help-seeking appeared to be facilitated by the belief that depression wascontrolled by external factors, belief in the benefits of treatment for depression, and favourable beliefs about the

experience of seeking professional help. Participants were less likely to seek help when they believed that the controllability and cause of depression waspersonal/interpersonaland thattheir symptoms were unrelated to depression or were intermittent.

Experimental studies. None of the experimental studies demonstrated an effect of the intervention on help-seeking for depression.In three studies the interventionimpacted favourably on beliefs about the benefits of professional help for depression and reduced concern about treatment; the exception was Kauer et al. (2017) in which no effect on beliefs were found. Edlund et al. (2008) examined the association between beliefs and help-seeking across conditions and the results largely converged with the findings of the cohort studies. Participants were more likely to seek help when they believed in the benefits of treatment for depression and when with they disagreed with certain beliefs including that depression should be handledpersonally, that they would worry about becoming addicted to antidepressants, and that there are issues in their life more important than their depression.

Quality of the Included Studies

Table 2 shows the quality ratings given to the included studies according to the EPHPP assessment tool. All studies received a global rating of ‘weak’.

There was a low risk of selection bias in five (50%) studies as determined by a representative sample and at least 60% of invited individuals agreeing to take part. The RCTs and one CCT (i.e., experimental studies) were assigned the highest rating

for quality of study design and the cohort studies were rated as ‘fair’. Confounders were adequately controlled for in six studies (60%). The confounders included were generally appropriate given their association with depression help-seeking (e.g., Biddle, Gunnell, Sharp,& Donovan, 2004; Eisenberg, Golberstein, & Gollust, 2007; & Rickwood, & Braithwaite, 1994).

The quality indicators that the studies performed most poorly on were blinding and data collection methods, with only two studies (20%) achieving acceptable ratings on each of these subscales. Five (50%) studies were awarded acceptable ratings on the subscale for withdrawals and drop-outs, as defined by describing numbers and reasons as well as reporting completion rates of at least 60%.

Discussion

The presentreview investigated which health beliefs are associated with help-seeking for depression. In line with theories of health behaviour, what participants believed about depression and about preventive health action was related to whether they sought help; however, the association between beliefs and help-seeking varied across studies. Whilst 75% of the experimental studies showed a positive effect of health information interventions on beliefs, rates of help-seeking in these studies did not differ between the treatment and control groups. This suggests that the change in beliefs brought about by the intervention had no detectable impact on help-seeking.

This review sampled a total of 7,878 (prospective cohort studies *n* = 6,025; experimental studies *n* = 1,853) participants across four countries. Only studies with the highest level of evidence according to their methodological design were eligible

(OCEBM Levels of Evidence Working Group, 2011), to enable tentative inferences about the directional influence of health beliefs on help-seeking to be made.

It is perhaps surprising that even when the intervention had a favourable effect on health beliefs, help-seeking did not improve in the experimental studies. The HBM predicts that a positive changein beliefs improves help-seeking, through enhancing the perceived benefits of help, reducing perceived barriers, heightening how susceptible an individual feels to depression and how severe depression is believed to be as an illness, and increasing perceived self-efficacy in relation to getting help(Abraham & Sheeran, 2005; Rosenstock, 1966, 1990). However, modifications in health beliefs may take a while to translate into preventive health action, especially in the context of depression with many people waiting for years before seeking help for suspected symptoms (Bebbington et al., 2000; Christiana et al., 2000; Wang et al., 2005).Further, the manipulations in the experimental trials may not have been strong enough to modify help-seeking.

Ways of coping with distress can become habitual and have a powerful effect on current actions (Ajzen, 2011; Verplanken, Aarts, Knippenberg, & Moonen, 1998). Indeed, the amount of variance in current behaviour explained by beliefs and attitudinal variables increases from 36% to 53% when past behaviour is also included as an independent variable (Abraham & Sheeran, 2003). For individuals who are used to blocking out or minimizing symptoms of depression, this habitual response pattern may delay help-seeking even if there is a positive change in their beliefs and/or attitudes about help-seeking (Ajzen, 2011). Longer periods of follow-up may be required inorder to capture changes in help-seeking behaviour in intervention studies(Costin et al., 2009). Further, in the current review there was an issue of studies being underpowered due to low base rates of help-seeking. Future

studies into depression help-seeking should trial out effective methods of recruiting large numbers of target individuals, to detect variations in help-seeking behaviour.

It can be particularly difficult to recruit sufficient sample sizes in health research, with many studies failing to meet their recruitment goals (Campbell et al., 2007). Online methodology appears to be a promising direction for recruitment in mental health research, for various reasons such as it being easy to access a large number of people in a short amount of time and anonymous participation being possible, which is useful for sensitive topics such as depression (Morgan, Jorm, & Mackinnon, 2013).

The studies included in this review demonstrated that health beliefs are associated with help-seeking for depression. When associations were significant, they were generally in line with theoretical predictions; for example, perceiving treatmentas beneficial was related to higher rates of help-seeking, as specified by the HBM (Abraham & Sheeran, 2005; Rosenstock, 1990). However, it is difficult to determine the extent to which the present findings support theories of health behaviour, as the relationship between beliefs and help-seeking was inconsistent across studies. For example, perceived benefits of seeking help and ofdepression treatment were found to be associated with help-seeking in three studies (Edlund et al., 2008; Jorm et al., 2000; Murphy et al., 2013) but not in the study by Mojtabai et al. (2016). There was no evidence that the pattern of results differed as a function of the depression status of the sample. Inconsistencies across studies are likely due in part to variationsin the measurement of beliefs. A variety of questionnaires and tools were used, with the reliability, validity, and theoretical basis of the instruments being largely unclear. Specifically, only two (20%) studies reported validity and reliability statistics for their measures. This finding is in line with previous reviews, which have

found that the majority of studies use unvalidated measures developed specifically for the purpose of the study or scales that are modified from other measures (Vogt, 2011). The use of measures of beliefs about mental health with poor or unreported psychometric properties is a widely recognised issue in mental health help-seeking research and greatly limits the conclusions that can be drawn about the influence of beliefs on help-seeking from existing literature (Vogt, 2011). There is a need for studies applying reliable, valid and theoretically-driven measures of health beliefsto advance understanding and knowledge in this area (Vogt, 2011).

Prospective or longitudinal studies are used to enable authors to make inferences about causal associations among variables. However, longitudinal designs do not automatically prove causality and they do not rule out the possibility of third variable associations (Zapf, Dormann, & Frese, 1996). In fact, reviews of longitudinal studies show that in about 33% of studies there is some evidence of reverse causation among variables (Zapf et al., 1996).Whilst theories of health behaviour such as the HBM argue that health beliefs influence help-seeking behaviour, it could be that unmeasured variables cause both beliefs and help-seeking to change. In the present review, adequate control of empirically-validated confounders was realised in only six (60%) of the studies. Thismay be a further reason why the experimental studies were unsuccessful in changing rates of help-seeking. It is important that studies measure and control for potential confounding variables and report relevant differences between groups at the start of the study (Zapf et al., 1996).

The quality of the studies included in the review was low, with none of the studies being rated as acceptable overall on the quality assessment measure. Lack of reporting of requisite information is an issue affecting the quality ratings generally

achieved by studies in the area of mental health beliefs and help-seeking (Vogt, 2011). Studies should adhere to reporting guidelines in order to enhance the, credibility, replicability, and interpretability of their findings (e.g., Altman et al., 2001, for RCTs; von Elm et al., 2007, for cohort studies).

The present review was not without limitations. One problem facing systematic reviews is selective reporting bias, in which studies are more likely to reportsignificant outcomes than non-significant outcomes and which may distort the overall picture of the results (McKenzie, Herbison, Roth,& Paul, 2010). Selective reporting may be difficult to detect, but it is an important consideration when data for a particular outcome in a study appear to be missing. Resources were not available to search grey literature, which may have resulted in a review that wasmore susceptible to publication bias.

The review focused on personal health beliefs about depression and about help-seeking; however, other types of mental health perceptions may affect help-seeking, such as perceived public stigma (Vogt, 2011). Further, additional factors may impact on help-seeking for depression, such as the availability of appropriate sources of help (Rickwood, Deane, Wilson, & Ciarrochi, 2005). The association between health beliefs and help-seeking for depression should be considered within the wider context in which help-seeking occurs, including physical barriers to taking preventive action.

Whilst there were inconsistencies in the results linked to methodological issues, the present review supports cognitive theories of health behaviour in that what people believe about depression and about preventive health action is important in whether they will seek help. The current findings may be informative for public health campaigns aimed at improving rates of help-seeking for depression.

For example, studies included in the review demonstrated that belief in the benefits of interventions was associated with higher rates of help-seeking and therefore may be a key construct to address in interventions.

Conclusion

Based on this review and previous research, health beliefs may provide a useful framework to evaluate current programs aimed at increasing treatment seeking (Henshaw & Freedman-Doan, 2009). Studies should be theoretically-driven and sufficiently powered to detect effects. The present findings point towards the need for high quality research with clearly defined constructs, reliable and valid variable measurements, and adherence to reporting standards. It is hoped that such work will provide a clearer picture of the role of health beliefs in help-seeking for depression and make progress on understanding the psychological context of readiness to seek help.

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Appendix

The Effective Public Health Practice Project (EPHPP) Tool for Quantitative Studies

A) Selection Bias

Q1) Are the individuals selected to participate in the study likely to be representative of the target population?

1. Very likely
2. Somewhat likely
3. Not likely
4. Can't tell

Q2) What percentage of selected individuals agreed to participate?

1. 80 - 100% agreement
2. 60 – 79% agreement
3. Less than 60% agreement
4. Not applicable
5. Can't tell

B) Study Design

Indicate the study design

1. Randomized controlled trial
2. Controlled clinical trial
3. Cohort analytic (two group pre + post)
4. Case-control
5. Cohort (one group pre + post (before and after))
6. Interrupted time series
7. Other specify _____
8. Can't tell

Was the study described as randomized? Yes/No. If NO, go to Component C.

If Yes, was the method of randomization described? Yes/No

If Yes, was the method appropriate? Yes/No

C) Confounders

Q1) Were there important differences between groups prior to the intervention?

1. Yes
2. No
3. Can't tell

The following are examples of confounders:

1. Race
2. Sex
3. Marital status/family
4. Age
5. SES (income or class)
6. Education
7. Health status
8. Pre-intervention score on outcome measure

Q2) If yes, indicate the percentage of relevant confounders that were controlled (either in the design (e.g. stratification, matching) or analysis)?

1. 80 – 100% (most)
2. 60 – 79% (some)
3. Less than 60% (few or none)
4. Can't Tell

D) Blinding

Q1) Was (were) the outcome assessor(s) aware of the intervention or exposure status of participants?

1. Yes
2. No
3. Can't tell

Q2) Were the study participants aware of the research question?

1. Yes
2. No
3. Can't tell

E) Data Collection Methods

Q1) Were data collection tools shown to be valid?

1. Yes
2. No
3. Can't tell

Q2) Were data collection tools shown to be reliable?

1. Yes
2. No
3. Can't tell

F) Withdrawals and Drop-outs

Q1) Were withdrawals and drop-outs reported in terms of numbers and/or reasons per group?

1. Yes
2. No
3. Can't tell
4. Not applicable (i.e. one time surveys or interviews)

Q2) Indicate the percentage of participants completing the study (If the percentage differs by groups, record the lowest)

1. 80 -100%
2. 60 - 79%
3. Less than 60%
4. Can't tell
5. Not applicable (i.e. retrospective case-control)

SCHOOL OF PSYCHOLOGY

DOCTORATE IN CLINICAL PSYCHOLOGY

EMPIRICAL PAPER

The Role of Health Beliefs and Identity Conflict in Help-Seeking for Depression

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Target Journal: Psychological Medicine

Word Count: 7,987WORDS

Submitted in partial fulfilment of requirements for the Doctorate Degree in Clinical Psychology, University of Exeter

Abstract

Depression is more likely to be detected and effectively treated if the mechanisms that lead people to seek help for their symptoms are understood. Studies suggest that whether people will seek help is largely influenced by psychological determinants including what they believe about help-seeking. However, there is a paucity of research applying psychological models of help-seeking in the context of depression. To make progress on understanding when people become ready to seek help for depression, the present study applied a psychological theory of help-seeking, the Health Belief Model (HBM), also considering the additional value of identity conflict to examine whether this improved the explanatory power of the HBM. A cross-sectional survey of 445 men and women who had never sought help in relation to depression was conducted. The survey measured demographic factors, depression symptoms, the HBM constructs, identity conflict, intentions to seek help, and a proxy measure of behaviour defined as whether participants opted to read information online about seeking help for depression. An exploratory structural equation model (SEM) specifying the HBM health beliefs wasmoderate-to-poor at explaining help-seeking intentions. Inclusion of identity conflict led to a model accounting for significant variance in intentions; however, individual identity conflict variables were not related to intentions. Logistic regression showed that participants who chose to read information about depression were more likely to be older, of non-white ethnicity, and to feel more susceptible to depression. Findings suggest that to maximise impact, educational campaigns to promote help-seeking for depression should take into account not only demographic risk factors but beliefs about seeking help. There is a need for further theoretically-driven studies testing other cognitive

factors that are relevant in health behaviour in order to understand the psychological antecedents to help-seeking for depression.

Introduction

Little is known about the psychological and decisional mechanisms underlying help-seeking for depression. In general, there is a paucity of research applying theoretical models of health behaviour in the context of help-seeking for depression and a lack of understanding about the processes that determine when people become ready to seek help when they experience symptoms. It may be particularly prudent to shed light on the factors that facilitate help-seeking in the context of depression, because low motivation is a symptom of the illness (APA, 2013; Carr& McNulty, 2006), impeding help-seeking further.

According to the Health Belief Model (HBM; Figure 1), in order to make progress with explaining when people will seek help for depression it is necessary to investigate their beliefs about depression (Abraham & Sheeran, 2005; Rosenstock, 1966, 1990). The HBM argues that a person's background characteristics (e.g., age, education) predict their beliefs about a health problem (such as depression). Beliefs include how susceptible the individual feels to the health problem, how severe they perceive the health problem to be, perceived benefits and barriers to preventive health action, and perceived self-efficacy in relation to taking preventive health action. Beliefs about the health problem influence the likelihood that the individual will take action to address the health problem and optimise their health outcomes, for example by seeking help from a doctor (Rosenstock, 1990).

The HBM is one of the most commonly used theories of health promotion and has been applied to various promotion behaviours in the domain of physical health, including whether people attend for cancer screening (Champion et al., 2008), use condoms during sexual encounters (Bryan, Aiken,& West, 1997), and make lifestyle

choices that reduce risk of heart disease (Ali, 2002). Research shows that the HBM can explain significant variance in health behaviour in a variety of health contexts (e.g., Bryan et al., 1997; Kim et al., 2008; Norman et al., 1999). The empirical support for the HBM has led to calls for the model to be used as a foundation for the development of interventions to promote health-optimising choices (Kloeblen & Batish, 1999). One study demonstrated that a health intervention based on the HBM was effective at increasing the HBM beliefs and intentions to obtain a mammogram and lead to screening mammography rates that were two to three times higher than control conditions (Aiken, West, Woodward, Reno, & Reynalds, 1994).

Whilst studies support the HBM in predicting a number of health behaviours, reviews suggest that predictive utility varies across the model's constructs, partly due to methodological variations in how beliefs are conceptualised across studies (Carpenter, 2010; Tanner-Smith & Brown, 2010). There have been recommendations for studies testing the HBM to extend the model to incorporate other cognitive variables that are known to influence health behaviour in order to enhance explanatory power (Carpenter, 2010; Conner & Norman, 2005), and indeed such extensions have been successful at explaining physical health promotion behaviours (Gillibrand & Stevenson, 2006).

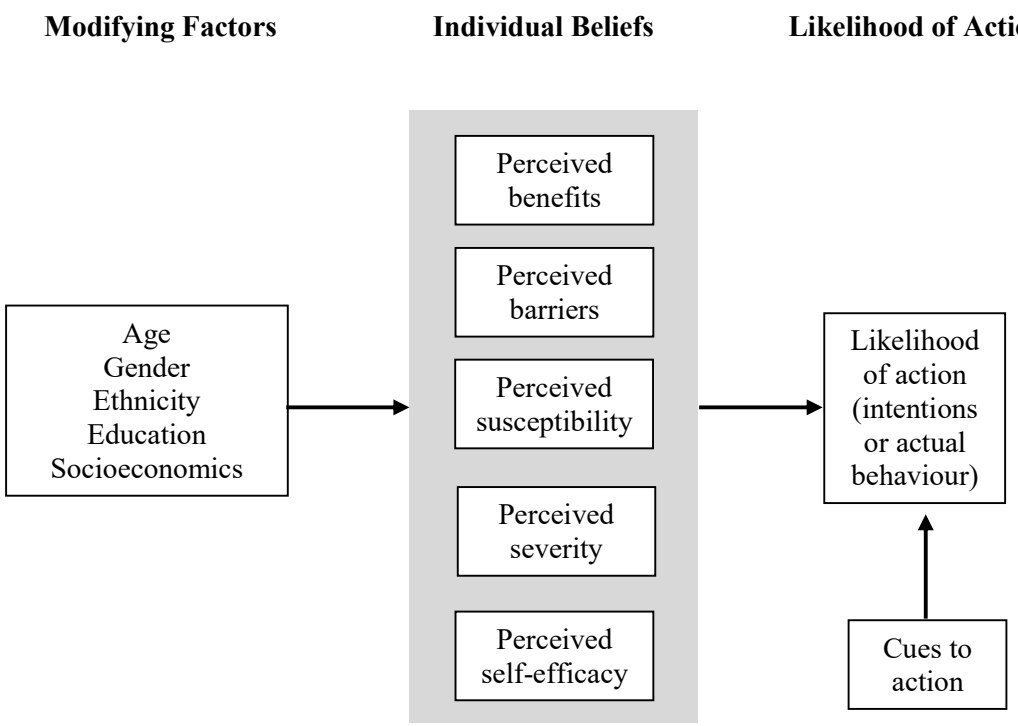

*Figure 1.*The Health Belief Model (adapted from Stretcher & Rosenstock, 1997).

There is comparatively less research applying theoretical models such as the HBM to mental health behaviour than physical health behaviour. There have been calls for the HBM to be applied to help-seeking for mental health problems, as the model includes cognitive factors known to be associated with help-seeking for mental health disorders (Henshaw & Freedman-Doan, 2009). Indeed, studies have shown that the HBM constructs are related to mental health promotion behaviours, but more research is needed that applies the model in its full form to understand whether this is a useful framework within which to understand mental health help-seeking (Henshaw & Freedman-Doan, 2009).

There is emerging evidence that the HBM constructs predict intentions to seek help for depression among individuals presenting with symptoms (Farmer, 2013; Kim & Zane, 2016). Studies have also found that additional cognitive factors outside of the HBM are important in explaining help-seeking behaviour for

depression. One such factor is the relationship of illness and help-seeking to an individual's identity. Specifically, individuals who do not see depression as part of their identity have lower intentions to seek help for depression (Farmer, 2013).

Various types of self-identity have been identified, including the actual self (an individual's representation of the attributes that they believe they possess), the ideal self (attributes that they would like ideally to possess), the ought self (attributes that they believe they should possess), and the feared self (attributes that they would not like to possess; Higgins, 1987; Markus & Nurius, 1986; Ogilvie, 1987). According to Self-Discrepancy Theory (SDT), individuals aim to reach a state where their actual self matches their ideal or ought self (Higgins, 1987). Similarly, they are motivated to prevent their actual self from matching their feared (or unwanted) self.

Conflict between aspects of self-identity is associated with psychological discomfort (Higgins, 1987; Jung, Hecht,& Chapman Wadsworth, 2007). SDT argues thatwhen conflict in aspects of an individual's identity occurs, the individual is motivated to reduce this discrepancy (Higgins, 1987). One study found that individuals with disabilities who saw their disability as a positive part of their identity were more likely to reject curative treatment because it threatened their identity, in comparison with individuals who lacked a positive self-concept around their disability (Hahn & Belt, 2004). This implies that if seeking help or receiving treatment for an illness conflicts with an individual's identity, the individual will be less likely to seek help and/or treatment.

Identity conflict may add to the explanatory power of the HBM over help-seeking for depression (Farmer, 2013). Specifically, identity conflict might increase the barriers facing an individual in seeking help. Based on SDT, if the act of seeking help for depression conflicted with an individual's representation of their ideal or

ought self, the individual would be motivated to reduce this conflict by avoiding seeking help. Qualitative research suggests that individuals with current or previous depression avoid seeking help when the onset of depressive symptoms conflicts with their identity (Farmer, Farrand & O'Mahen, 2012). Similarly, it might be expected that if the act of seeking help would bring the individual closer to a feared self (e.g., of being reliant on others), this would strengthen the barriers facing the individual in pursuing help. In this way, identity conflict may be associated with likelihood of help-seeking through its association with perceived barriers. Figure 2 illustrates the HBM extended to include the hypothesized role of identity conflict. The four aspects of self-identity would be tested separately in analyses but are collapsed together diagrammatically as 'identity conflict'.

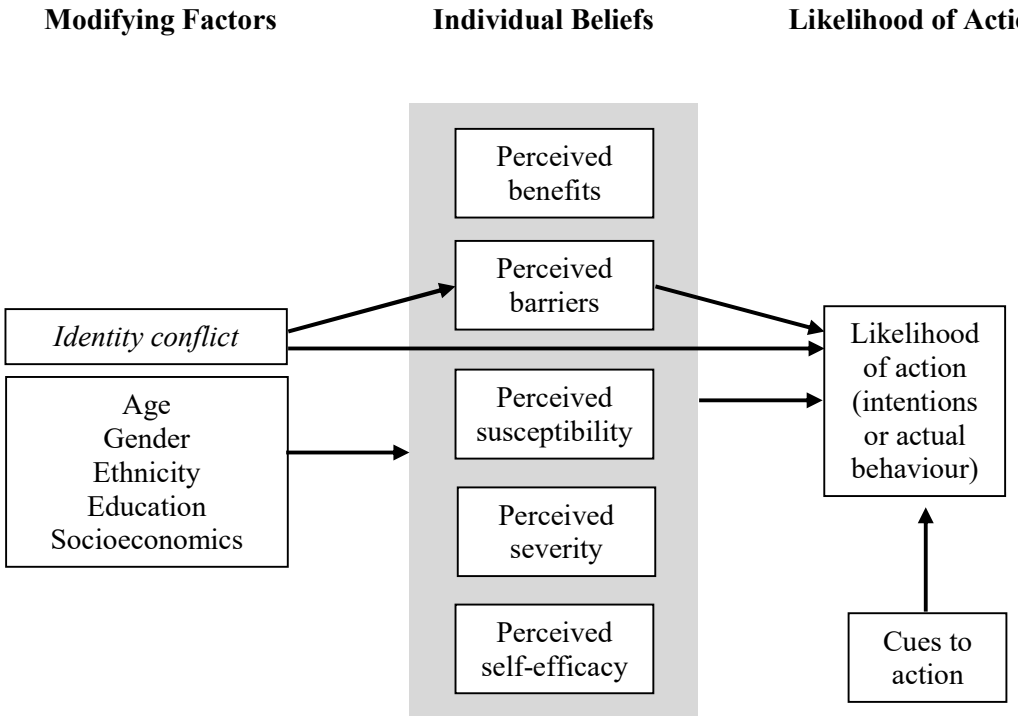

*Figure 2.*The Health Belief Model (adapted from Stretcher & Rosenstock, 1997) with the added hypothesized association of identity conflict with likelihood of help-seeking, directly and indirectly through perceived barriers.

Aims and Hypotheses

The present study tested the explanatory power of the HBM onintentions to seek help for depression. Previous tests of the HBM have included individuals with experience of seeking treatment (e.g., Farmer et al., 2013). However, prior help-seeking could influence current help-seeking beliefs (e.g., how susceptible one feels to depression; perceived benefits of treatment) and as such could contaminate the association among the HBM constructs and intentions. There is a need for research investigating the role of health beliefs in depression help-seeking intentions among individuals who are treatment naïve. Therefore, this study included individuals who were not currently receiving treatment for depression and have never sought treatment. It is likely that depressive symptoms are related to the HBM constructs including intentions to seek help, so depressive symptoms were included as a covariate.

The study examined whether the predictive power of the HBM over help-seeking intentions was improved by adding identity conflict to the model. As outlined in Figure 2, identity conflict was tested for its direct association with help-seeking as well as indirectly with perceived barriers as a mediator (Figure 2).

To the author's knowledge, there is currently no research investigating whether the HBM can predict actual help-seeking in relation to depression. The present study investigated whether the HBM constructs predicted intentions to seek help as well as a proxy measure of help-seeking behaviour; specifically, whether participants opted to read information online about seeking professional help for depression. Use of non-professional sources (such as the internet) to gain information about a condition may represent a preliminary form of help-seeking that occurs before individuals become aware of and gain knowledge about their condition

(Blenner, 1990). Further, online help-seeking is becoming an increasingly preferred means of obtaining information about health conditions and is correlated with other measures of help-seeking including accessing health centres and visiting health professionals (Santor, Poulin, LeBlanc, & Kusumakar, 2007; Ybarra & Suman, 2006).

Hypotheses were as follows:

1. A model specifying the HBM constructs would explain significant variance in intentions to seek help for depression (Figure 3);
2. Conflict withfour aspects of self-identity (actual self, ideal self, ought self, and feared self)would jointly explain additional variance in help-seeking intentions and improve the explanatory power of the HBM, with greater identity conflict being directly associated with reduced intentions (Figure 3);
3. Perceived barriers would partially mediate the association between identity conflict and intentions to seek help, such that individuals with more conflict between their self-identity and help-seeking would perceive greater barriers to seeking help, which in turn would be related to reduced intentions;
4. The HBM constructs would explain significant variance in a proxy measure of depression help-seeking behaviour; specifically, whether participants chose to read information online about how to seek help;
5. Identity conflict would explain additional variance in the proxy measure of depression help-seeking behaviour and improve the explanatory power of the HBM, with greater identity conflict reducing the likelihood that participants would opt to read information online about help-seeking.

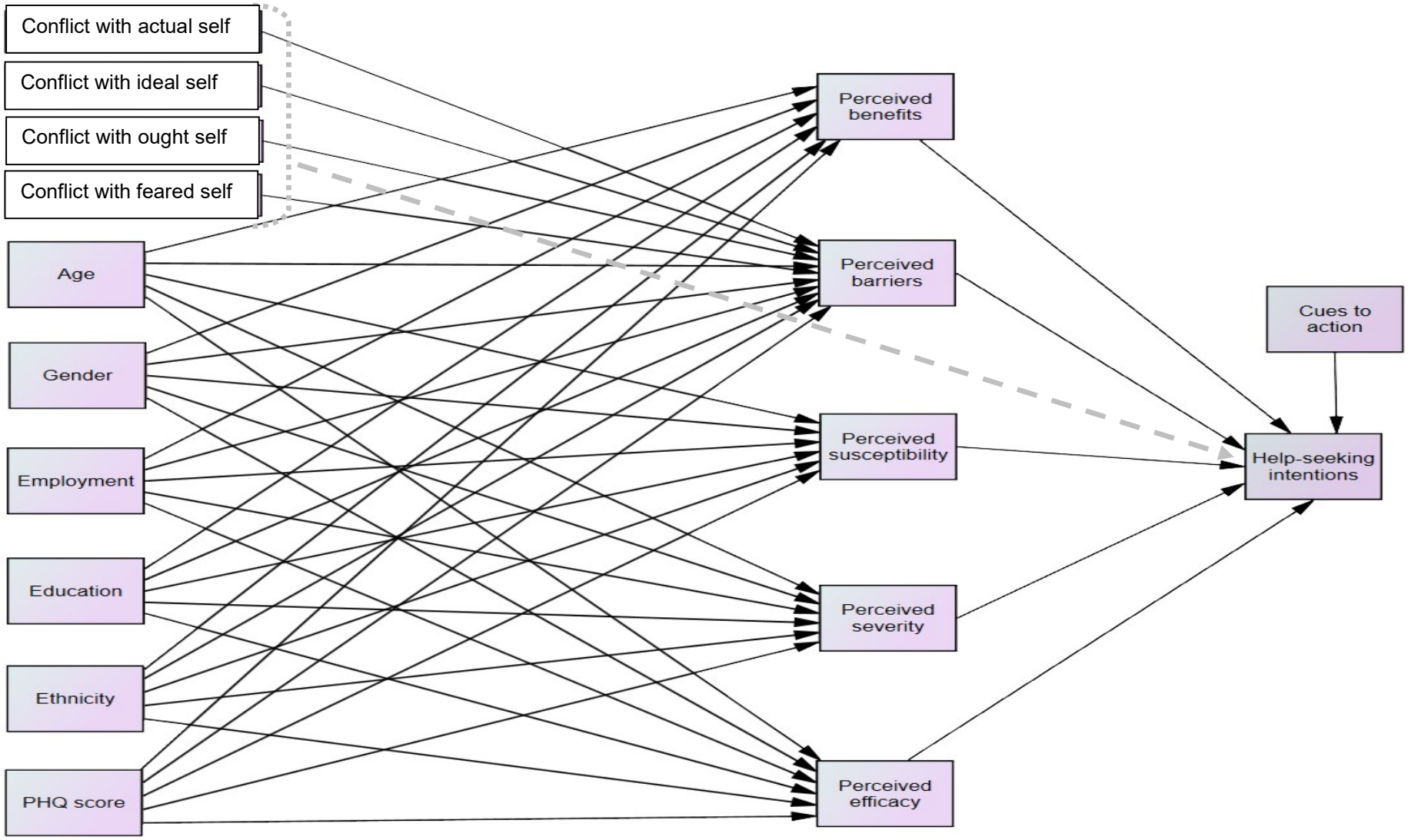

Figure 3. Hypothesised model assessing the predictive utility of the HBM variables and four identity conflict variables over depression help-seeking intentions. Dashed line represents direct paths from each identity conflict variable to intentions.

Method

Design

The present research comprised a cross-sectional survey study aimed at examining whether the HBM constructs and identity conflict were associated with intentions to seek help for depression and a proxy behavioural measure of help-seeking.

Participants

A total of 621 participants began the survey, recruited from two sources. Firstly, staff and students at the University of Exeter were recruited (*n* = 449) by advertising the study to students at the School of Psychology through the school's student research participation system and to staff and students at other academic schools via the respective school's social media website. Secondly, users of a social media website (*n* = 172) were recruited via a snowball sampling technique by which the study was advertised on the website to friends (and subsequently friends of friends) of the researcher. The number of participants that completed the survey (defined by providing a response to the final survey item) was 445 (*n* = 382 staff and students from the University of Exeter; *n* = 63 respondents to the social media website).

Students recruited through the School of Psychology research participation system were awarded partial course credit as per University policy, whilst all other respondents were thanked for their time by being entered into a prize draw for one of two £100 vouchers.

The eligibility criteria for the present study were (1) aged 18 or over; and (2) never sought medical help in relation to depression. Medical help was defined as having sought advice or treatment from a medical or health practitioner (e.g.,GP, psychiatrist, psychologist). Participants did not have to have symptoms of depression in order to be included in the study. People with depression may not recognise the cause of their symptoms (Farmer et al., 2012), so the advert specified that the project concerned beliefs about low mood and depression and that a diagnosis of depression was not required in order to take part. A previousstudy (Farmer, 2013) showed that of over 1,000 participants recruited in this way, 56% (*N* = 580) met criteria for at least mild depression as measured by the Patient Health Questionnaire (PHQ-9; Kroenke, Spitzer & Williams, 2001).

Ethical Approval and Considerations

Ethical approval was sought and obtained from the School of Psychology Ethics Committee at the University of Exeter (see Appendix A).

Measures

Demographic variables. Demographic variables were age (in years and months), gender, ethnicity (white; mixed/multiple ethnic groups; Asian/Asian British; Black/African /Caribbean/Black British; other ethnic group), education level (no education; primary school; secondary school; post-secondary school/ trade or technical college; university graduate; postgraduate university), and employment status (full time employed; part time employed; unemployed; student; retired; other).

Help-seeking experience. To ensure that participants had not previously sought help, one item screened participants according to their help-seeking experience: 'Have you ever sought professional advice and/or treatment for depression (e.g., medication, counselling, psychotherapy), either in the past or currently?' (yes/no), adapted from previous research (Farmer, 2013).

Depression symptoms. The PHQ-8 (Kroenke & Spitzer, 2002) assessed current symptoms of depression. The PHQ-8 required participants to rate how often over the last two weeks they have been bothered by eight symptoms of depression as specified by the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), on a scale of 0 (*not at all*) to 3 (*nearly every day*), such as 'little interest or pleasure in doing things' and 'feeling down, depressed, or hopeless'.The PHQ-9 includes an item that asks about thoughts of death and self-harm. As the present study was online, it was not possible to follow up participants who provided an affirmative response to this item. Therefore, following recommendations for online studies, the PHQ-8 was used, which omits the item measuring thoughts about death and self-harm (Kroenke & Spitzer, 2002). The PHQ-8 demonstrates excellent psychometric properties (Kroenke et al., 2001) and comparable operating characteristics to the PHQ-9(Kroenke & Spitzer, 2002). PHQ-8 scores of 5, 10, 15, and 20 represent mild, moderate, moderately severe, and severe depression respectively (Kroenke & Spitzer, 2002). Items were combined to form a composite variable with satisfactory reliability (Cronbach's alpha = .82).

HBM constructs. The HBM constructs were measured according to previous research (Bryan et al., 1997; Gerend, Aiken,& West, 2004; Rosenstock, 1990). The constructs show acceptable reliability in existing research (Cronbach's alpha > .7; Bryan et al., 1997; Champion et al., 2008). Table 1 presents the items used to measure the HBM constructs. Items were combined to form composite variables with satisfactory reliability for perceived benefits (four items; alpha = .89), perceived barriers (nine items; alpha = .86), perceived susceptibility (three items; alpha = .94), and perceived severity (four items; alpha = .87). A composite variable for cues to action was created by counting the number of cues participants had been exposed to out of the three possible options. Whilst exposure to a higher number of cues would be expected to relate to higher intentions to seek help, responses to individual cue items were not expected to correlate (and indeed did not; alpha = .30) because the items were measuring exposure to cues to depression from very different sources. Perceived efficacy was measured with one item.

Table 1.

Items used to measure the HBM constructs

HBM construct	Items	Response scale anchors (1-7)
Perceived benefits (four items)	"To what extent do you believe that seeking professional help would help to treat depression?" "To what extent do you believe that seeking professional help would prevent depression from becoming worse?" "To what extent do you believe that seeking professional help would improve mood?" "To what extent do you believe that seeking professional help would improve quality of life?"	Strongly disagree – Strongly agree
Perceived barriers (nine items)	"Certain barriers make it hard to seek help for depression. How much do you think the following barriers would prevent you from seeking help for depression?" - Finding it distressing to speak to a GP - Cost - Lack of time - GP being unsympathetic - Negative reactions from friends and family - Being stigmatised by others - Difficult to find energy to attend - Thinking that nothing can help - Thoughts that my GP cannot help me	
Perceived susceptibility (three items)	"How likely do you think you are to experience depression, now or in the future?" "How susceptible to depression do you feel?" "What is the chance that you will experience depression?"	Very unlikely – Very likely Not at all susceptible – Extremely susceptible Very unlikely –Very likely
Perceived severity (four items)	"Would depression cause problems in your relationships?" "Would depression interfere with your normal activities?" "Would depression cause problems doing the things you usually do (e.g., work, study, hobbies, socialising)?" "Would your life be negatively affected	Strongly disagree –Strongly agree

Table 1.

Items used to measure the HBM constructs

HBM construct	Items	Response scale anchors (1-7)
	by depression?"	
Perceived self-efficacy (one item)	"How confident are you that you could seek professional help for depression if you wanted to?"	Not at all confident – Extremely confident
Cues to action (three items)	"Do you know someone who has depression, or who has had depression in the past?" "During the last month, have you talked about the topic of depression with a friend, family member, or coworker?" "During the last month, have you read or heard any information about depression (e.g. news program, documentary, magazine article)?"	Yes/ No

Identity conflict. Participants' mental representations of their actual, ideal, ought, and feared self-identities were measured, following recommendations from previous research (Higgins, 1987; Ogilvie, 1987). Firstly, the meaning of actual, ideal, ought and feared selves was defined (Higgins, 1987; Ogilvie, 1987; see Appendix B). Then, participants were asked to list five (or as close to five as possible) traits or attributes (e.g., self-reliant, dependable, vulnerable) for each of the self-identities. Participants then rated the extent to which seeking help from a professional for low mood would help them to be more like each trait or would conflict with the trait, on a scale from 1 (*would help me to be more like this*) to 7 (*would prevent me from being like this*). Conflict ratings for the traits were summed separately for each aspect of self-identity to create four composite variables with satisfactory reliability (actual self conflict, alpha = .68; ideal self conflict, alpha = .81; ought self conflict, alpha = .81; feared self conflict, alpha = .86). Higher ratings of

conflict between help-seeking and actual, ideal and ought traits would indicate the perception that the act of help-seeking conflicts with traits that one wants to possess (Higgins, 1987; Ogilvie, 1987), and a desired self-state. Conversely, higher ratings of conflict between help-seeking and feared traits would suggest the perception that the act of help-seeking takes one away from traits that one would never want to possess (Higgins, 1987; Ogilvie, 1987), and therefore away from a feared self-state. For example, one could perceive that help-seeking conflicts with the feared trait of being isolated, therefore making them less like this undesired trait.

The four representations of self reflect qualitatively different forms of motivation that have been theoretically and empirically distinguished (Higgins, 1987; Ogilvie, 1987). Therefore the four identity conflict composites were entered as separate variables in analyses. Due to a lack of previous research there were no *a priori* hypotheses around differences in the associations between particular composites and perceived barriers/likelihood of help-seeking.

Help-seeking intention. Intention to seek professional help for depression was measured via two items (Fishbein & Ajzen, 2010). The items ‘If you were to experience low mood, how likely would you be to seek professional advice and/or treatment?’ and ‘If I was to experience low mood, I would seek professional advice and/or treatment’ were rated on a seven-point Likert-scale, with 1 representing *‘unlikely/disagree’* (respectively) and 7 representing *‘likely/agree’* (respectively). Items were combined to form a composite variable with satisfactory reliability (alpha = .92).

Proxy measure of help-seeking behaviour. The survey included a proxy measure of help-seeking behaviour using one item that assessed whether participants opted to read more information online about how they could seek professional help if they were to experience depression. The item and information were applicableto individuals experiencing symptoms of depression as well as those who were not currently experiencing symptoms but wanted to read about how they could seek help if they were to suspect problems in the future: “There is information available online about seeking professional help if you thought you were experiencing depression, either now or in the future. Would you like to read this information?”(*Yes/No)*.Participants who provided an affirmative response were directed to a page providing information from the NHS choices website in the following subsections: how to tell if you have depression, when to see a doctor, treating clinical depression, and getting help (Appendix B).

Procedure

The survey was run online using the computer software LimeSurvey. The study advertisement contained a web link that individuals could follow if they were interested in taking part. The link directed potential participants to a study information page, consent form, and screening question (Appendix C). Participants could only progress to the survey (Appendix B) if they provided their consent, indicated that they were aged 18 or over, and their response to the screening question showed that they were eligible, i.e., that they had never sought medical help in relation to depression.

After confirming consent and eligibility, participants were invited to provide an email address in order that they could be entered into the prize draw. Participant

email addresses were stored in a separate file to their data accessible only to the researcher and were not linked to their data in any way. The item assessing whether participants opted to read information about seeking help for depression was presented at the end of the survey. Participants who clicked 'yes' to this item were directed to the help-seeking information page and then to a study debrief page; participants who declined to read the information went straight to the debrief page.The survey took approximately 15 minutes to complete.

Power

The sample size required for intended structural equation modelling (SEM) analyses was 132, to achieve power of .80 and based on the degrees of freedom (*df*= 101) as determined by the number of measured variables (*n* = 16) and the number of parameters to be estimated in the model (*n* =35; MacCallum, Browne,& Sugawara, 1996). Recommendations for SEM classify a sample size of 100 as acceptable, 200 as good, and 300 as excellent (Kline, 2005).

Data Analysis

Descriptive statistics were used to examine the presence of outliers and univariate normality. The distribution of employment status was highly unbalanced, with only 2.7% (*n* = 12) of participants being unemployed, so this variable was excluded from analyses. Variables with positive skews were age and PHQ-8 total score; negatively skewed variables were perceived benefits, perceived barriers, perceived severity, cues to action, and intentions (composites). Logarithmic

transformations were applied, with negatively skewed variables reflected before being transformed (Field, 2013). The presence of multivariate outliers was assessed by examining Mahalanobis distances and noting observations that were significant (at $p < .001$), and these informed decisions about variable transformations.

The categorical demographic variables were dichotomised for the intended statistical analyses based on associations with help-seeking for depression that have been observed in previous literature (e.g., Eisenberg et al., 2007; Huang et al., 2007) and because this resulted in reasonably even splits in the current sample: education (post-secondary or less/university education), employment status (unemployed/ employed [including student status]), and ethnicity (not white/white).

Participants' data were included for the composite variables if they had responded to at least two thirds of the items on that scale. This led to the exclusion of zero to nine participants according to the variable: no participants from the perceived benefits, perceived barriers, or perceived severity composites; one participant from the PHQ-8 composite; two participants from the perceived susceptibility, conflict with ought self, and intentions composites; five participants from the conflict with feared self composite; six participants from the cues to action composite; eight participants from the conflict with actual self composite; and nine participants from the conflict with ideal self composite. Absent data on the composites were assigned a value of 'missing'. The cues to action composite only included participants who responded to all three cuesitems, in order to be able to validly count the number of cues encountered. Cronbach's alpha was used to estimate the reliability of the composites (PHQ-8 composite, five HBM construct composites, intentions composite, and four conflict with identity traits composites); > .70 indicated acceptable reliability (Field, 2013).

Participants were included in statistical analyses if they completed the survey as indicated by completion of the last question about whether they wanted to read information about help-seeking (*n* = 445).Of the survey completers, 96.6% (*n* = 430) had over 90% complete data. Little's Missing Completely at Random (MCAR) test was significant (χ^2[214]= 281.27, *p*<.01), suggesting that the data were not missing completely at random and that mean imputation for missing data was not appropriate. Study completers with missing composites (due to non-completion of at least two-thirds of items) were excluded from analyses of relevant variables.

An exploratory SEM with Maximum Likelihood estimation was conducted to examine the hypothesised relations between the HBM constructs, identity conflict and intentions to seek help for depression. SEM provides more insight into the relationships among variables than standard regression analysis (Kline, 2005).The model was constructed in two steps. Firstly, a model was computed testing the hypothesis that the HBM variables (i.e., modifying factors, health beliefs, and cues to action) would explain significant variance in help-seeking intentions. A second model additionally included the four variables measuring perceived conflict between help-seeking for depression and four aspects of the self (actual, ideal, ought and feared) to examine whether the identity conflict variables explained further variance in help-seeking intentions and thus improved the explanatory power of the HBM. The second model also tested the hypothesised partial mediation of the association between identity conflict and intentions through perceived barriers. According to recommendations (Baron & Kenny, 1986), the presence of mediation was established if the following four conditions were met: (1) identity conflict was correlated with intentions, (2) identity conflict was correlated with perceived barriers (the mediator), (3) perceived barriers predicted intentions, and (4) the association

between identity conflict and intentions was significantly reduced or absent when perceived barriers was controlled.

Error terms were included for all observed variables to account for measurement error (Blunch, 2008).The fit of the SEM models was assessed using three fit indices: (1) chi-square (CMIN), with values not significant at the .05 level of significance indicating a model with good fit (Byrne, 2009). However, there are limitations of the chi-square statistic; firstly, deviations from normality can result in model rejections even when the model is properly specified (McIntosh, 2006) and secondly, it is sensitive to sample size so the model is nearly always rejected when large samples are used (Bentler & Bonnet, 1980; Jöreskog & Sörbom, 1993). Therefore, other indices were also used to assess the model fit, including; (2) relative chi-square (CMIN/df), with values near 1 indicating good fit (Blunch, 2008), and (3) standardised Root Mean-Square Error of Approximation (RMSEA), with values close to .06 indicating good fit (Hu & Bentler, 1999). SEM analyses were carried out using the computer software Analysis of Moment Structures (AMOS).

Hierarchical logistic regression was used to investigate the hypothesised associations among the HBM variables, identity conflict, help-seeking intentions and the proxy measure of help-seeking behaviour, i.e., whether participants chose to read information about seeking help for depression. The proxy measure of help-seeking behaviour was entered as the outcome variable. On the first step of the analysis, the HBM variables and intentions were entered as predictors, to test the hypothesis that the HBM would explain significant variance in the proxy measure of behaviour. On the second step, the four identity conflict variables were entered as predictors, to test the hypothesis that identity conflict would explain additional variance in the proxy measure of behaviour and thus improve the explanatory power

of the HBM. Logistic regression analyses were computed using the computer software Statistical Package for the Social Sciences (SPSS).

Results

Sample Characteristics, Health Beliefs, and Help-Seeking Factors

Table 2 presents the sample demographic and clinical characteristics overall and by recruitment source. Overall there was a mild level of symptoms of depression in the sample as measured by the PHQ-8. Participants recruited from the University source reported higher scores on the PHQ-8, $t(440) = 3.45$, $p = .001$; were younger, $t(63.51) = -10.85$, $p < .001$; more likely to be female, $\chi^2(1) = 5.64$, $p = .018$;less likely to have completed a University education (because by definition students are studying towards their degree but have not yet achieved it), $\chi^2(1) = 177.05$, $p < .001$; and were more likely to be of an ethnic minority background, $\chi^2(1) = 9.01$, $p = .003$.

Table 2.
Means (standard deviations) or frequencies (n, %) of demographic and clinical variables

Variable	**Recruitment source**		**Overall sample**
	University staff and students (*n*=382)	Social media website (*n*=63)	
		M (SD)	
PHQ-8 total score	6.98 (4.54)	4.88 (3.80)**	6.69 (4.5)
Age	20.01 (4.36)	34.65 (10.33)***	22.12 (7.52)
		***n* (%)**	
Gender (female)	325 (85.8)	45 (73.8)*	370 (84.1)
Education (university education)	44 (11.8)	54 (88.5)***	98 (22.5)
Employment status (employed)	366 (97.3)	60 (96.8)	426 (97.3)
Ethnicity (white)	287 (76.5)	57 (93.4)**	344 (78.9)

*p<.05, **p<.01, ***p<.001 for comparison on variable between participants from two recruitment sources (independent samples *t*-test for continuous variables, chi-square for categorical variables).

Table 3 displays health beliefs in relation to depression, level of conflict between identity traits and help-seeking for depression, and intentions to seek help overall and by recruitment source. Participants recruited from the University source reported greater barriers to seeking help for depression, $t(73.81) = 3.25$, $p = .002$; and lower perceived self-efficacy in relation to seeking help, $t(439) = 2.27$, $p = .024$.

Table 3.
Means (standard deviations) for health beliefs, conflict of help-seeking with identity traits, and intentions to seek help

Variable	**Recruitment source**		**Overall sample**
	University staff and students (*n*=382)	Social media website (*n*=63)	
Perceived benefits	22.87 (4.22)	23.50 (4.89)	22.96 (4.32)
Perceived barriers	40.99 (11.28)	35.03 (13.60)**	40.17 (11.79)
Perceived susceptibility	12.03 (4.52)	11.17 (4.71)	11.91 (4.55)
Perceived severity	24.48 (3.34)	24.65 (3.30)	24.51 (3.34)
Perceived self-efficacy	4.48 (1.52)	4.95 (1.49)*	4.55 (1.53)
Cues to action	2.23 (0.82)	2.27 (0.81)	2.24 (0.82)
Conflict with actual traits	21.13 (5.77)	20.70 (6.56)	21.07 (5.88)
Conflict with ideal traits	22.24 (6.49)	21.79 (7.09)	22.17 (6.57)
Conflict with ought traits	22.63 (6.27)	22.63 (6.58)	22.63 (6.31)
Conflict with feared traits	16.70 (6.70)	16.94 (7.73)	16.73 (6.84)
Intentions to seek help	10.07 (2.86)	10.49 (2.81)	10.13 (2.85)

*p <.05, **p<.01 for comparison on variable between participants from two recruitment sources (independent samples t-test for continuous variables, chi-square for categorical variables).

Correlations among Background Characteristics, HBM Variables and Help-Seeking Intentions

The correlations among participant background characteristics, the HBM constructs, and intentions to seek help for depression for the total sample are shown in Table 4.

Higher perceived benefits of seeking help for depression was associated with being older, being white, and having fewer symptoms of depression as rated by the PHQ-8. Higher perceived barriers to seeking help were associated with being younger, being female, and having less education. Higher perceived severity of depression was associated with being white. Higher perceived susceptibility to depression was associated with being younger and having more symptoms of depression. Higher perceived self-efficacy in relation to seeking help for depression was associated with being older, being white, and having fewer symptoms of depression. Exposure to a greater number of cues was associated with being female and white. Stronger intention to seek help was associated with being white and having fewer symptoms of depression.

The pattern of correlations among the individual beliefs was generally as expected. Perceived benefits were positively correlated with perceived severity, perceived self-efficacy, and intention to seek help. Perceived barriers were positively correlated with perceived severity and perceived susceptibility and negatively associated with perceived self-efficacy and intention. Perceived severity of depression was associated with exposure to a greater number of cues. Perceived susceptibility to depression was negatively associated with perceived self-efficacy and intention and positively associated with exposure to cues. Perceived self-efficacy and exposure to cues were positively associated with intention.

Table 4.

Correlations among participant background characteristics, HBM variables, and intentions to seek help for depression

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1.Age	-											
2.Gender	.16**	-										
3.Ethnicity	.13**	-.00	-									
4.Education	.56***	.07	.06	-								
5.PHQ-8 score	-.21***	-.08	-.13**	-.07	-							
6.Perceived benefits	.10*	.02	.21***	.02	-.21***	-						
7.Perceived barriers	-.20***	-.15**	-.01	-.12*	.08	.04	-					
8.Perceived severity	-.02	-.01	.11*	.05	-.05	.16**	.26***	-				
9.Perceived susceptibility	-.11*	-.09	.06	-.01	.50***	-.09	.16**	.07	-			
10.Perceived self-efficacy	.15**	.01	.17***	.10*	-.27***	.18***	-.13**	-.01	-.25***	-		
11.Cues to action	-.03	-.12*	.14**	-.04	.06	.07	.08	.15**	.14**	.07	-	
12.Help-seeking intention	.05	-.05	.15**	.05	-.28***	.27***	-.12*	.03	-.30***	.65***	.10*	-

Note. Gender is coded 0 = female, 1 = male; ethnicity is coded 0 = not white, 1 = white; education is coded 0 = post-secondary or less, 1 = university education.
*p<0.05.**p<0.01.***p<0.001.

Explanatory Power of HBM Variables over Help-Seeking Intentions

The first SEM model (Figure 4) tested the hypothesis that the HBM variables would explain significant variance in intentions to seek help for depression (Figure 4). The goodness of fit statistic was significant (χ^2[25]=117.12, p<.001) and the relative χ^2/df was 4.69, indicating poor fit. The RMSEA was .09 (90% CI [.08, .11]), indicating marginal-to-poor fit and the *P* value (PCLOSE) was significant (p<.001), suggesting that the null hypothesis that the RMSEA in the population was <.05 should be rejected (Blunch, 2008). This suggests that the HBM variables were not good at predicting help-seeking intentions.

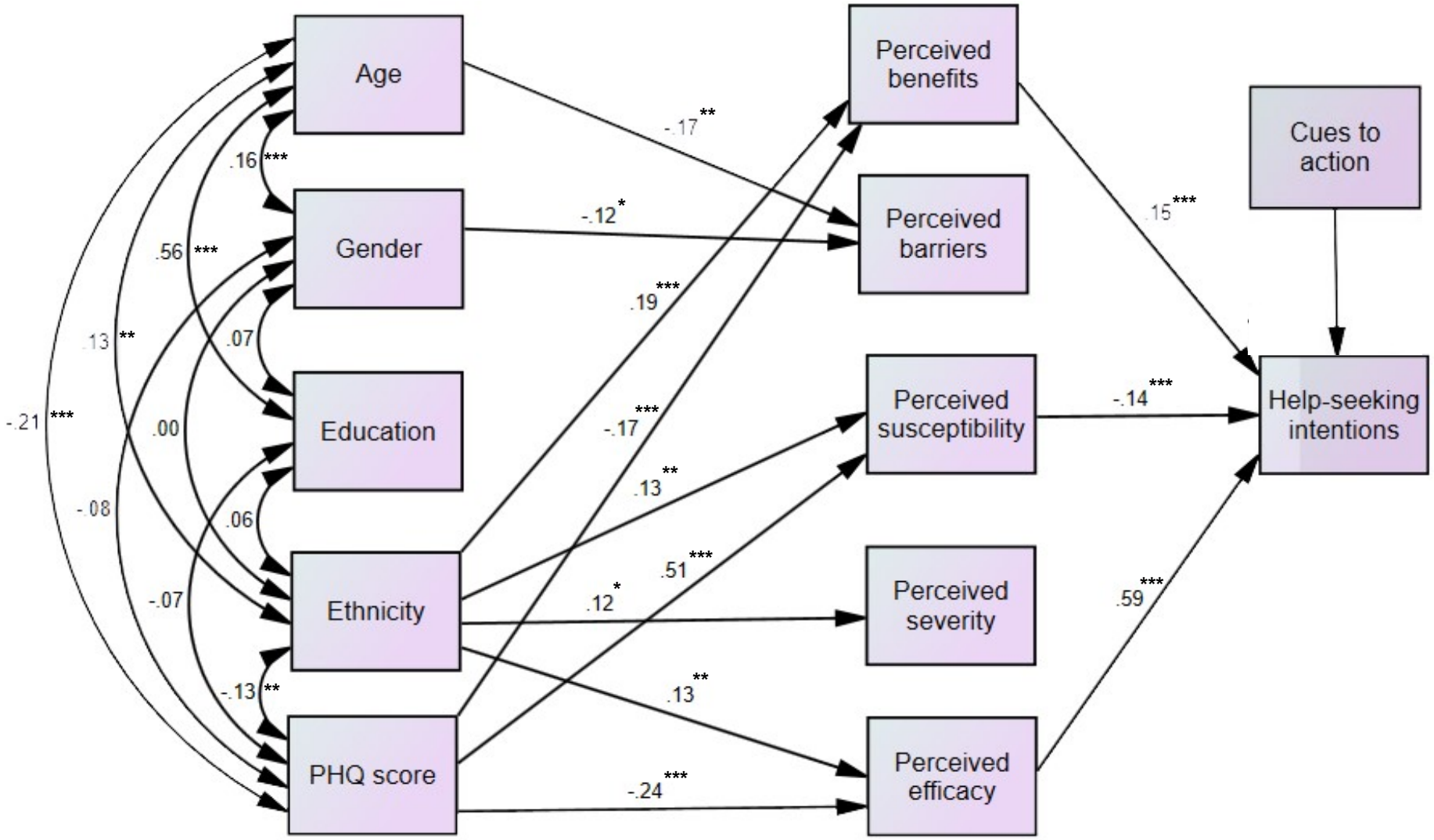

Figure 4. SEM testing the predictive utility of the HBM over intentions. Only significant pathways are shown. Values displayed are standardised regression weights and covariances. Error terms were included for all observed variables. *p<.05.**p<.01, ***p<.001.

Additional Explanatory Power of Identity Conflict Variables over Help-Seeking Intentions

A second SEM (Figure 5) incorporated the four identity conflict variables in order to investigate the hypothesis that identity conflict would improve the explanatory power of the HBM over intentions. The goodness of fit statistic was significant (χ^2[65]=164.05, p<.001), indicating bad fit. However, the relative χ^2/df was 2.52, indicating good fit. The RMSEA was .06 (90% CI [.05, .07]) and the PCLOSE was not significant (p=.099), indicating good fit. This implies that the significant chi-square for the model was due to the large sample size (Bentler & Bonnet, 1980; Jöreskog and Sörbom, 1993) and suggests that the HBM extended to incorporate identity conflict variables was good at explaining help-seeking intentions. A chi-square difference test using the chi-square values and degrees of freedom equal to the number of additional parameters indicated that the two models were not significantly different (χ^2[40] = 46.93,p= .21).

In the second model, age and gender were significantly associated with perceived barriers, with older participants and men perceiving fewer barriers to seeking help. Ethnicity was significantly related to perceived benefits, perceived susceptibility, perceived severity, and perceived self-efficacy, with white participants perceiving higher benefits of seeking help, feeling more susceptible to depression, believing that depression would have a greater impact on their lives, and feeling more confident that they could seek help for depression compared to participants of ethnic minority status.PHQ-8 score was associated with perceived benefits, perceived susceptibility, and perceived self-efficacy, with people with more

symptoms of depression perceiving less benefits of seeking help, feeling more susceptible to depression, and feeling less confident in seeking help.

As expected, participants who perceived greater benefits of seeking help and with higher perceived self-efficacy were significantly more likely to intend to seek help. On the contrary, against predictions, participants who felt susceptible to depression were significantly less likely to intend to seek help.

Counter to hypotheses, there was no significant association between any of the identity conflict variables and perceived barriers or help-seeking intentions, therefore an indirect path from identity conflict to intentions through perceived barriers was not supported (Baron & Kenny, 1986).

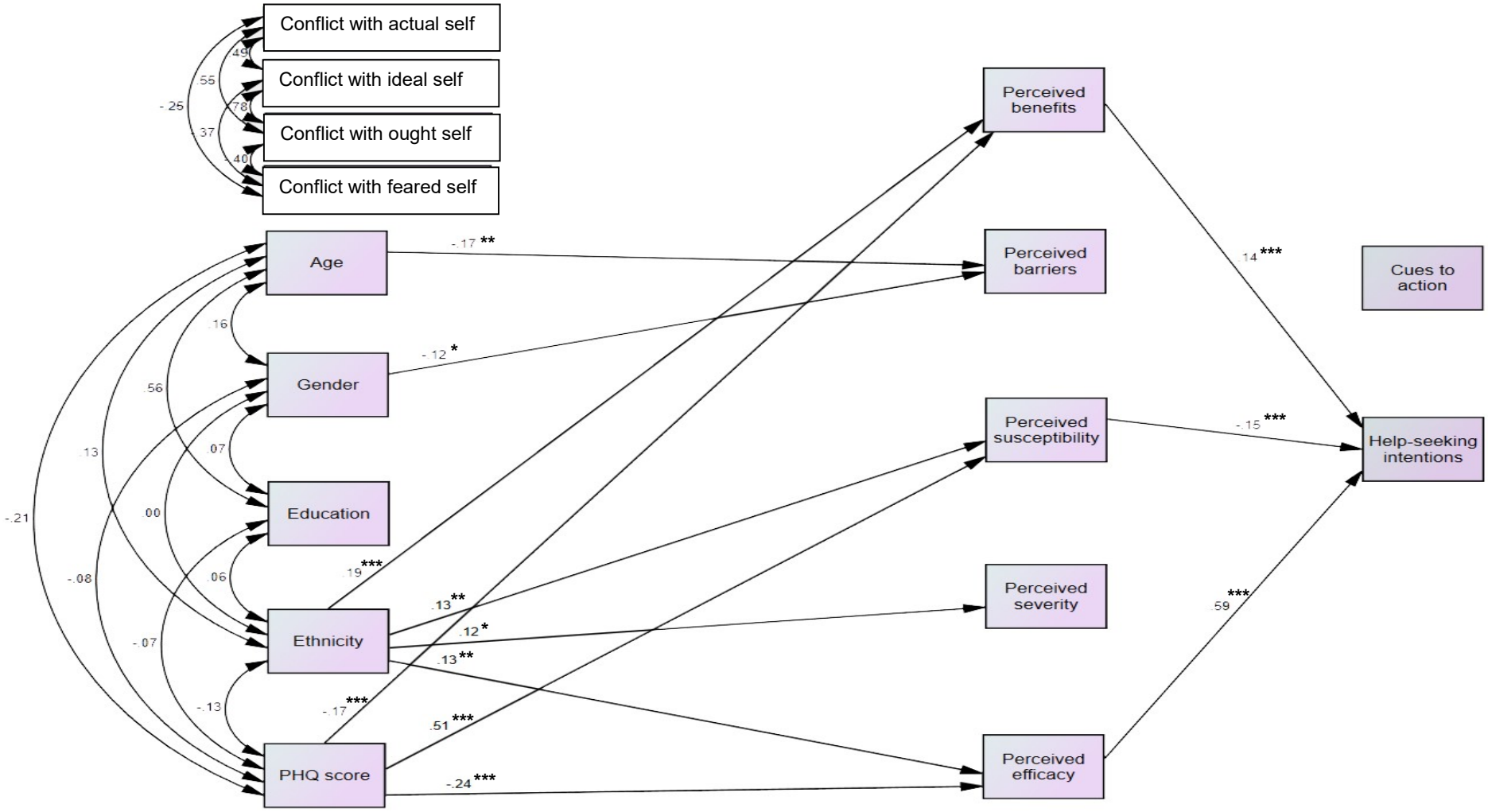

Figure 5. SEM testing the predictive utility of the HBM and identity conflict over intentions. Only significant pathways are shown. Values displayed are standardised regression weights and covariances. Error terms were included for all observed variables. **p*<.05.***p*<.01, ****p*<.001.

Association Among HBM Variables, Identity Conflict and Proxy Measure of Help-Seeking Behaviour

Step one of the logistic regression examining whether the HBM variables and help-seeking intentions explained significant variance in the proxy measure of behaviour (i.e., whether participants chose to read information online about seeking help) was significant (χ^2[12] = 32.57, p<.001), accounting for between 8% and 10.9% of the variance.

In terms of modifying factors, participants were more likely to choose to read the information if they were older (β = 3.44, p = .01, odds ratio = 31.11, 95% CI [2.36,409.63]) and less likely if they were of white ethnicity (β = -0.99, p<. 001, odds ratio = 0.37, 95% CI [0.22, 0.65]).In relation to health beliefs, participants were more likely to choose to read the information if they felt susceptible to depression (β = 0.07, p = .02, odds ratio = 1.07, 95% CI [1.01, 1.14]).Perceived benefits narrowly failed to show a significant association with the proxy measure of behaviour, in the expected direction (β=0.73, p=.05, odds ratio = 2.07, 95% CI [1, 4.30]). Summary regression statistics are presented in Table 5.

Step two of the regression investigated whether identity conflict would explain additional variance in the proxy measure of behaviour. The overall model was significant (χ^2[16] = 36.14, p = .003), accounting for between 8.9% and 12% of the variance. However, the change in the model was not significant (χ^2[4] = 3.57, p = .47), implying that the addition of the identity conflict variables did not improve the explanatory power of the HBM over the proxy measure of behaviour. Counter to hypotheses, none of the identity conflict variables were significantly associated with whether participants chose to read information about seeking help for depression.

Table 5.

Summary statistics for hierarchical logistic regression on proxy measure of behaviour, i.e.,whether participants chose to read information about seeking help for depression

Step 1: Main effects HBM variables and intentions	***R^2=.080 (Cox & Snell), .108 (Nagelkerke), p = .001***			
	b	***SE b***	***Odds (95% CI)***	***p***
Age	3.437	1.315	31.109 (2.363-409.625)	.009
Gender	-0.126	0.305	0.882 (0.485-1.603)	.680
Ethnicity	-0.987	0.281	0.373 (0.215-0.647)	<.001
Education	-0.180	0.320	0.835 (0.446-1.565)	.574
PHQ-8 score	0.290	0.478	1.337 (0.524-3.408)	.543
Perceived benefits	0.728	0.372	2.072 (0.999-4.297)	.050
Perceived barriers	-0.647	0.448	0.523 (0.217-1.260)	.148
Perceived severity	0.079	0.343	1.082 (0.552-2.121)	.819
Perceived susceptibility	0.069	0.030	1.071 (1.009-1.137)	.023
Perceived self-efficacy	0.106	0.097	1.112 (0.919-1.345)	.276
Cues to action	-0.031	0.584	0.970 (0.308-3.048)	.958
Help-seeking intentions	-0.738	0.544	0.478 (0.165-1.388)	.175
Step 2: Main effects identity conflict variables	***R^2=.089 (Cox & Snell), .120 (Nagelkerke), p = .003***			
	b	***SE b***	***Odds (95% CI)***	***p***
Age	3.649	1.343	38.430 (2.762-534.635)	.007
Gender	-0.154	0.307	0.857 (0.469-1.565)	.615
Ethnicity	-0.984	0.284	0.374 (0.214-0.652)	.001
Education	-0.181	0.324	0.835 (0.443-1.574)	.577
PHQ-8 score	0.209	0.482	1.232 (0.479-3.171)	.665
Perceived benefits	0.634	0.377	1.886 (0.902-3.945)	.092
Perceived barriers	-0.671	0.456	0.511 (0.209-1.248)	.141
Perceived severity	0.095	0.344	1.100 (0.560-2.160)	.782
Perceived susceptibility	0.072	0.031	1.075 (1.012-1.142)	.019
Perceived self-efficacy	0.094	0.098	1.099 (0.907-1.331)	.334
Cues to action	-0.080	0.592	0.923 (0.289-2.942)	.892
Help-seeking intentions	-0.768	0.551	0.464 (0.157-1.366)	.163
Conflict with actual self	0.032	0.023	1.033 (0.987-1.081)	.162
Conflict with ideal self	-0.012	0.027	0.988 (0.937-1.042)	.654
Conflict with ought self	-0.010	0.030	0.990 (0.933-1.051)	.751
Conflict with feared self	-0.022	0.019	0.978 (0.943-1.015)	.236

SE = standard error; CI = confidence interval.

Discussion

This exploratory study tested a theoretically-driven explanation for low rates of depression help-seeking, examining the role of health beliefs as specified by the HBM and identity conflict. The predictive utility of these constructs was examined on intentions to seek help as well as a proxy measure of behaviour, i.e., whether participants opted to read information online about seeking help for depression. Findings shed light on the factors that explain when people become ready to seek help for depression and contribute to designing effective interventions to improve rates of help-seeking.

Structural equation modelling suggested that the HBM in its original form was moderate-to-poor at accounting for variation in intention to seek help for depression. This would argue against applying the HBM in its original form to depression help-seeking intentions (Carpenter, 2010). Previous research in other health contexts has shown that the association between the HBM constructs and intention to engage in preventive health behaviours is modified by level of knowledge (Fulford, Bunting, Tsibulsky, & Boivin, 2013). Individuals who have never sought help tend to have lower knowledge about the condition and about help-seeking (Bunting et al., 2013). Even if they have favourable beliefs about depression, including the benefits of treatment, individuals may be unlikely to intend to seek help if they lack the relevant knowledge about where, when and how to seek help.

The inclusion of perceived identity conflict produced a model that explained significant variance in help-seeking intentions; however, the identity variables were not associated with intentions anddid not produce a significant change in the model fit.This goes against the hypothesisthat if professional help-seeking for depression was perceived to conflict with desired self-states (i.e., actual, ideal, or ought) or to

reflect a feared self-state,then individuals would be motivated to reduce the discrepancy by having lower intentions to seek help and by choosing not to read information about help-seeking. Participants in the present sample did not have clinical depression or experience of help-seeking and were asked to rate the hypothetical level of conflict between help-seeking and their different self-states. It might be that identity conflict has to be realised in order for it to have an impact on intentions and behaviour. Indeed, when individuals become aware that they have symptoms of depression, this can create conflict with their identity which deters them from help-seeking (Farmer et al., 2012).

There was no support for the hypothesised relationship between identity conflict and perceived barriers to seeking help. The perceived barriers construct was orientated to external circumstances (Abraham & Sheeran, 2005; Rosenstock, 1966, 1990) which may not be as closely related to identity conflict as originally expected. Further research is warranted to investigate the association between identity conflict and internal barriers, such as internalised stigma, which are not directly considered by the HBM. Previous research suggests that perceived conflict between one's identity and help-seeking for mental health problems is associated with increased internalised stigma, which in turn is linked to reduced willingness to seek help for psychological problems (Pederson & Vogel, 2007; & Steinfeldt, Steinfeldt, England, & Speight, 2009).

In line with previous research on HBM construct associations (Rosenstock, 1966, 1990), participants who perceived greater benefits of seeking help and had higher perceived self-efficacy in relation to obtaining help had stronger intentions to seek professional help should they ever think they were experiencing symptoms of depression. However, against theoretical predictions, participants who felt

susceptible to depression had weaker intentions to seek help should they think they were experiencing symptoms. Given the overall low PHQ-8 depression score in the sample, this finding may reflect individuals who suspected that they were showing early signs of symptoms, but were lacking in motivation or confidence to seek help. Indeed, low motivation is a symptom of dysphoria (Carr& McNulty, 2006).

The present findings demonstrated that older individuals and those of non-white ethnicity were more likely to opt to read the information online about seeking help for depression. This points to the need for interventions that are tailored to the help-seeking barriers facing the target audience, such as the perceived stigma, embarrassment, poor mental health literacy and preference for self-reliance that hinder help-seeking in young people (Gulliver,Griffiths,&Christensen, 2010). Participants who felt more susceptible to depression were more likely to choose to read the information, in contrast to the negative association observed in this studybetween perceived susceptibility and intentions. Use of non-medical sources of help (e.g. information online) may represent an early form of help-seeking that is more accessible to individuals who suspect they have symptoms of a particular health condition but are not ready to seek professional help (Blenner, 1990).

The testing of hypothesised associations among a non-clinical sample could be questioned, as it could be argued that depression beliefs and intentions to seek help are more relevant to people who are experiencing symptoms. Reviews show that depressed individuals have different beliefs about depression and about treatment to non-depressed individuals (Prins, Verhaak, Bensing, & van der Meer, 2008) and thus depressed/non-depressed samples may constitute characteristically distinct groups in terms of the cognitive processes underlying help-seeking. The use of a non-clinical and treatment-naïve sample provided an opportunity to examine

beliefs about depression and their relationship to help-seeking intentions among individuals who were, overall, not currently at severe levels of the illness. It was hoped that this would enable the identification of individuals who, based on the beliefs they hold about depression and treatment, were at risk for delaying seeking help should they ever experience symptoms.

The present study is not without limitations. The design was cross-sectional, so inferences about causality among variables cannot be made.A methodological consideration is the measurement of the cues to action construct. In line with previous research (e.g., Farmer et al., 2013), the present study created a composite cues to action variable by counting the number of cues to which participants had been exposed. It could be argued that, due to lack of correlation among the individual cues items, the composite cues variable should be disaggregated and tested as three separate dichotomous (yes/no) items. However, research suggests a cumulative effect of cues to action, such that the greater the number of different types of cue an individual is exposed to, the greater the impact on perceptions of threat (Witte, Stokols, Ituarte& Schneider, 1993). This indicates that the number of cues exposed to is as important as the frequency of being exposed to each one (Witte et al., 1993), which could be argued to support the use of a cumulative measure of cues to action.

Conclusion

The present study provided some support for the HBM constructs in explaining readiness to seek help for depression. Individuals who felt susceptible to depression were more likely to read information online about how to seek help,

which may represent an early form of help-seeking (Blenner, 1990).Findings also demonstrated that demographic factors play a role in readiness to seek help. Public health campaigns may have a bigger impact on help-seeking if they take into account the characteristics of their target audience. The HBM did not demonstrate a good fit to intentions to seek help in the current sample of treatment-naïve individuals. This implies that there is a need to explore cognitive factors outside of the HBM that may be relevant in depression help-seeking, such as knowledge and internalised stigma. An important consideration is that intentions do not always translate into behaviour (Scholz, Schuz, Ziegelmann, Lippke, & Schwarzer, 2008). Whilst outside of the scope of this cross-sectional project, there is a need for prospective research assessing the psychological antecedents of actual help-seeking behaviour.Research of this kind will hopefully contribute to closing the gap between the number of individuals who would benefit from treatment for depression and the number of individuals who are currently receiving it.

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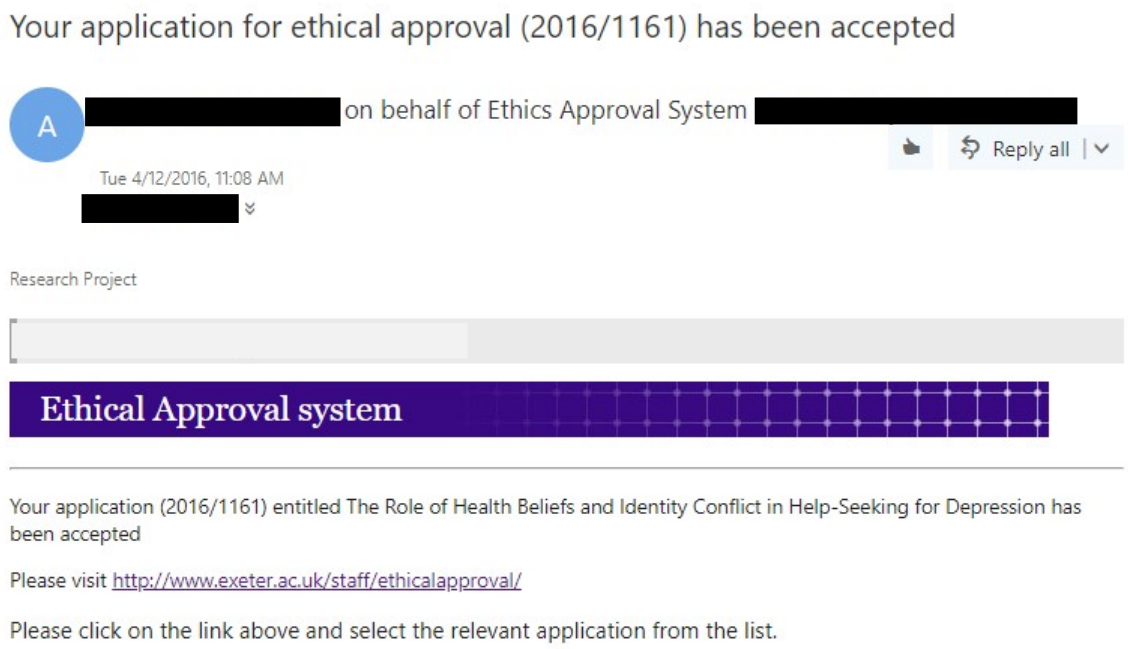
Appendices

Appendix A: Ethical Approval Email



Your application for ethical approval (2016/1161) has been accepted

A [redacted] on behalf of Ethics Approval System [redacted]

Reply all

Tue 4/12/2016, 11:08 AM

[redacted]

Research Project

Ethical Approval system

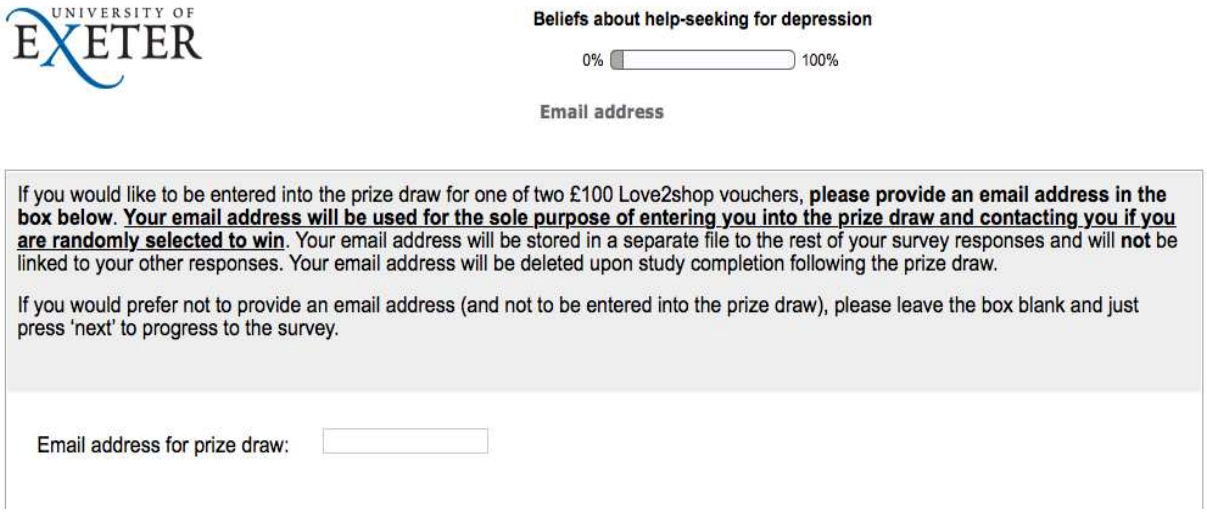
Your application (2016/1161) entitled The Role of Health Beliefs and Identity Conflict in Help-Seeking for Depression has been accepted

Please visit http://www.exeter.ac.uk/staff/ethicalapproval/

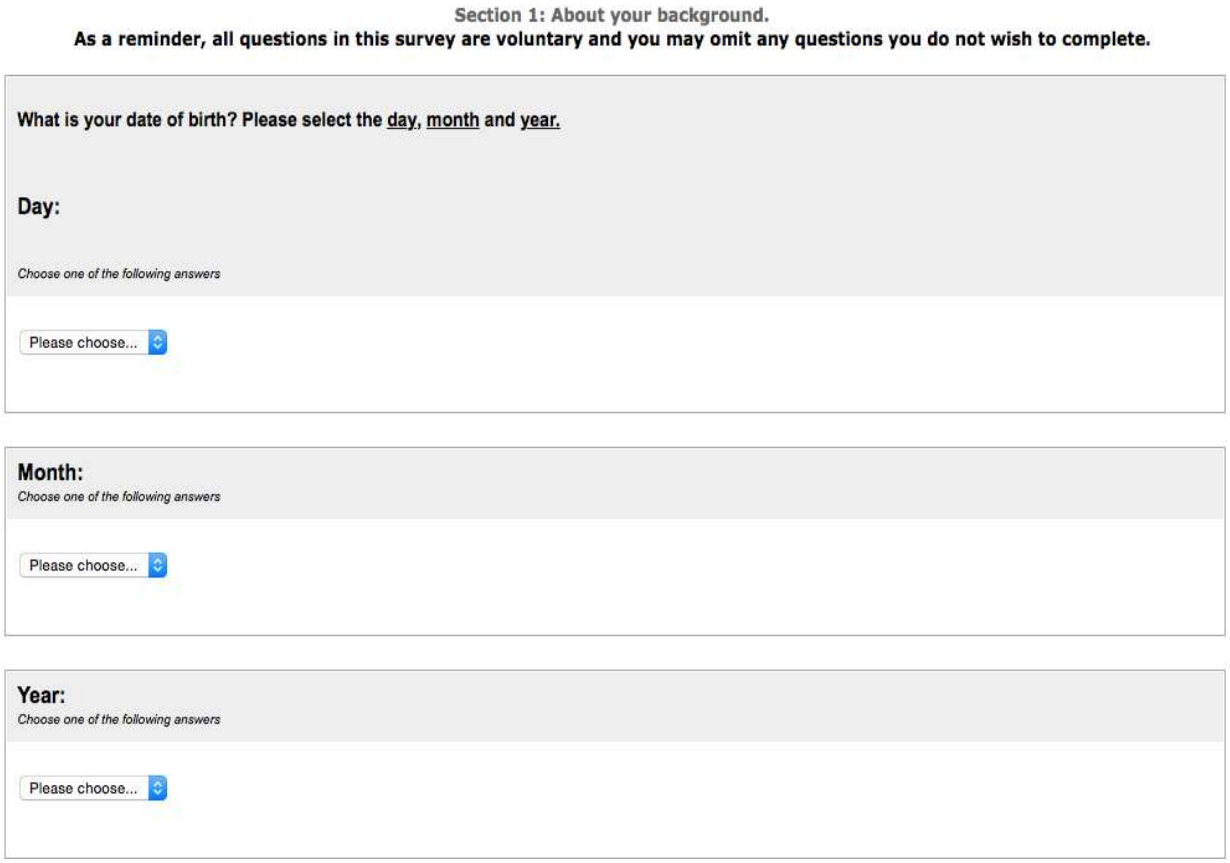
Please click on the link above and select the relevant application from the list.

Appendix B: Beliefs About Help-Seeking for Depression Survey

For participants recruited from sources other than the School of Psychology Research Participation System:



For all participants:



What is your gender?

If you tick 'other', please specify in the comment box below.

Choose one of the following answers

- ○ Female
- ○ Male
- ○ Other
- ◉ No answer

Please enter your comment here:

What is your ethnicity?

If you tick 'other', please specify in the comment box below.

Choose one of the following answers

- ○ White
- ○ Mixed/multiple ethnic groups
- ○ Asian/Asian British
- ○ Black/African/Caribbean/Black British
- ○ Other ethnic group
- ◉ No answer

Please enter your comment here:

What is the highest level of education you have achieved? (Please tick the highest category that applies)

Choose one of the following answers

- ○ No education
- ○ Primary school
- ○ Secondary school
- ○ Post-secondary school/ trade or technical college
- ○ University graduate
- ○ Postgraduate university
- ◉ No answer

What is your employment status?

Choose one of the following answers

- ○ Full time employed
- ○ Part time employed
- ○ Unemployed
- ○ Student
- ○ Retired
- ○ Other
- ◉ No answer

Section 2: About self-identity.

*

People characterise themselves using different words, for example "ambitious", "attractive", "stubborn", or "beautiful". Some characteristics are more like personality traits (e.g., "generous", "reliable", "independent", "lazy", "short-tempered", "timid") and others are more like social identities (e.g., "mother", "father", "Muslim", "socialist", "professional", "atheist").

In this section we will ask you to list (using single words) a number of characteristics to describe four different aspects of your identity. The characteristics you choose may be personality traits or social identities, or a mixture of both.

Please note that you may include the same word to describe more than one aspect of your identity.

1. Firstly, we will ask you about the characteristics that *you think you have most of the time.* Please list five characteristics that *you think you have most of the time.* It is important that you list *five characteristics.*

Please write one characteristic in each box.

Trait 1:
Trait 2:
Trait 3:
Trait 4:
Trait 5:

*

2. Now, we will ask you about the characteristics that *you would like to have.* Please list five characteristics that *you would like to have*. Remember you can use the same characteristic in more than one section. It is important that you list *five characteristics.*

Please write one characteristic in each box.

Trait 1:
Trait 2:
Trait 3:
Trait 4:
Trait 5:

* **3. Now, we will ask you about the characteristics that *you think you ought to have*. Please list five characteristics that *you think you ought to have.* Remember you can use the same characteristic in more than one section. It is important that you list *five characteristics.***

Please write one characteristic in each box.

Trait 1:
Trait 2:
Trait 3:
Trait 4:
Trait 5:

*** 4. Lastly, we will ask you about the characteristics that *you would hope to never have.* Please list five characteristics that *you would hope to never have*. Remember you can use the same characteristic in more than one section. It is important that you list *five characteristics.***

Please write one characteristic in each box.

Trait 1:
Trait 2:
Trait 3:
Trait 4:
Trait 5:

Section 3: About mood.

Over the last TWO WEEKS, how often have you been bothered by any of the following problems? Please use the following scale to indicate your answers.

	Not at all	Several days	More than half the days	Nearly every day	No answer
1. Little interest or pleasure in doing things	○	○	○	○	◉
2. Feeling down, depressed, or hopeless	○	○	○	○	◉
3. Trouble falling or staying asleep, or sleeping too much	○	○	○	○	◉
4. Feeling tired or having little energy	○	○	○	○	◉
5. Poor appetite or overeating	○	○	○	○	◉
6. Feeling bad about yourself, or that you are a failure, or have let yourself or your family down	○	○	○	○	◉
7. Trouble concentrating on things, such as reading the newspaper or watching television	○	○	○	○	◉
8. Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual	○	○	○	○	◉

People with depression experience a range of symptoms, with two of the main ones being low mood and/or loss of pleasure in most activities. The symptoms are present for at least two weeks and are present for most of every day.

In the following section, we will ask about your beliefs about seeking help for problems with depression. Please use the following scale to indicate your answers.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree	No answer
To what extent do you believe that seeking professional help would help to treat depression?	○	○	○	○	○	○	○	◉
To what extent do you believe that seeking professional help would prevent depression from becoming worse?	○	○	○	○	○	○	○	◉
To what extent do you believe that seeking professional help would improve mood?	○	○	○	○	○	○	○	◉
To what extent do you believe that seeking professional help would improve quality of life?	○	○	○	○	○	○	○	◉

Section 4 Part 2: Beliefs about depression and help-seeking.

Certain barriers make it hard to seek help for depression. How much do you think the following barriers would prevent you from seeking help?

	Not at all	Very slightly	A little	Somewhat	Moderately	Very much	Extremely	No answer
Finding it distressing to speak to a GP	○	○	○	○	○	○	○	◉
Cost	○	○	○	○	○	○	○	◉
Lack of time	○	○	○	○	○	○	○	◉
GP being unsympathetic	○	○	○	○	○	○	○	◉
Negative reactions from friends and family	○	○	○	○	○	○	○	◉
Being stigmatised by others	○	○	○	○	○	○	○	◉
Difficult to find energy to attend	○	○	○	○	○	○	○	◉
Thinking that nothing can help me	○	○	○	○	○	○	○	◉
Thoughts that my GP cannot help me	○	○	○	○	○	○	○	◉

Section 4 Part 3: Beliefs about depression and help-seeking.

How likely do you think you are to experience depression, now or in the future?

Choose one of the following answers

- ○ Very unlikely
- ○ Unlikely
- ○ Somewhat unlikely
- ○ Neither likely nor unlikely
- ○ Somewhat likely
- ○ Likely
- ○ Very likely
- ◉ No answer

How susceptible to depression do you feel?
Choose one of the following answers

- ○ Not at all susceptible
- ○ Very slightly susceptible
- ○ A little susceptible
- ○ Somewhat susceptible
- ○ Moderately susceptible
- ○ Very susceptible
- ○ Extremely susceptible
- ◉ No answer

What is the chance that you will experience depression?
Choose one of the following answers

- ○ Very unlikely
- ○ Unlikely
- ○ Somewhat unlikely
- ○ Neither likely nor unlikely
- ○ Somewhat likely
- ○ Likely
- ○ Very likely
- ◉ No answer

Section 4 Part 4: Beliefs about depression and help-seeking.

Please use the scale below to indicate your answers to the following questions:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree	No answer
Would depression cause problems in your relationships?	○	○	○	○	○	○	○	◉
Would depression interfere with your normal activities?	○	○	○	○	○	○	○	◉
Would depression cause problems doing the things you usually do (e.g. work, study, hobbies, socialising)?	○	○	○	○	○	○	○	◉
Would your life be negatively affected by depression?	○	○	○	○	○	○	○	◉

Section 4 Part 5: Beliefs about depression and help-seeking.

How confident are you that you could seek professional help for depression if you wanted to?
Choose one of the following answers

- ○ Not at all confident
- ○ Very slightly confident
- ○ A little confident
- ○ Somewhat confident
- ○ Moderately confident
- ○ Very confident
- ○ Extremely confident
- ◉ No answer

Section 4 Part 6: Beliefs about depression and help-seeking.

Please respond yes or no to the following questions:

	Yes	No	No answer
Do you know someone who has depression, or who has had depression in the past?	○	○	◉
During the last month, have you talked about the topic of depression with a friend, family member, or co-worker?	○	○	◉
During the last month, have you read or heard any information about depression (e.g. news program, documentary, magazine article)?	○	○	◉

Section 5: Self-identity characteristics continued.

Certain actions may be consistent or inconsistent with certain identity characteristics. By consistent, we mean that you would expect someone with this characteristic to perform this action. By inconsistent, we mean that you would *not* expect someone with this characteristic to perform this action. An action may be neither consistent nor inconsistent with a characteristic if you think that someone with this characteristic would be neither more nor less likely to perform this action. For example, the action of volunteering for a charity may be consistent with the characteristic 'generous' and inconsistent with the characteristic 'selfish'.

Earlier in the survey we asked you to list characteristics that described different aspects of your identity. Seeking professional help for depression may be consistent or inconsistent with the characteristics that you listed. Here we will ask you to rate the extent to which you think that seeking professional help for depression would be consistent or inconsistent with each characteristic you have listed. Please use the scale below to indicate your rating for each characteristic.

Seeking help from a professional for depression would be...

	Extremely inconsistent with this characteristic	Moderately inconsistent with this characteristic	Slightly inconsistent with this characteristic	Neither consistent nor inconsistent with this characteristic	Slightly consistent with this characteristic	Moderately consistent with this characteristic	Extremely consistent with this characteristic	No answer
<trait>	○	○	○	○	○	○	○	◉
<trait>	○	○	○	○	○	○	○	◉
<trait>	○	○	○	○	○	○	○	◉
<trait>	○	○	○	○	○	○	○	◉
<trait>	○	○	○	○	○	○	○	◉
<trait>	○	○	○	○	○	○	○	◉
<trait>	○	○	○	○	○	○	○	◉
<trait>	○	○	○	○	○	○	○	◉
<trait>	○	○	○	○	○	○	○	◉
<trait>	○	○	○	○	○	○	○	◉
<trait>	○	○	○	○	○	○	○	◉
<trait>	○	○	○	○	○	○	○	◉

	Extremely inconsistent with this characteristic	Moderately inconsistent with this characteristic	Slightly inconsistent with this characteristic	Neither consistent nor inconsistent with this characteristic	Slightly consistent with this characteristic	Moderately consistent with this characteristic	Extremely consistent with this characteristic	No answer
<trait>	○	○	○	○	○	○	○	◉
<trait>	○	○	○	○	○	○	○	◉
<trait>	○	○	○	○	○	○	○	◉
<trait>	○	○	○	○	○	○	○	◉
<trait>	○	○	○	○	○	○	○	◉
<trait>	○	○	○	○	○	○	○	◉
<trait>	○	○	○	○	○	○	○	◉
<trait>	○	○	○	○	○	○	○	◉

Section 6 Part 1: About seeking help for depression.

If you thought you were experiencing depression, how likely would you be to seek professional advice and/or treatment?
Choose one of the following answers

- ○ Very unlikely
- ○ Unlikely
- ○ Somewhat unlikely
- ○ Neither likely nor unlikely
- ○ Somewhat likely
- ○ Likely
- ○ Very likely
- ◉ No answer

Please use the scale below to rate your agreement with the following statement:

If I thought I was experiencing depression, I would seek professional advice and/or treatment

Choose one of the following answers

- ○ Strongly disagree
- ○ Disagree
- ○ Somewhat disagree
- ○ Neither agree nor disagree
- ○ Somewhat agree
- ○ Agree
- ○ Strongly agree
- ◉ No answer

Section 6 Part 2: About seeking help for depression.

*

There is information available online about seeking professional help if you thought you were experiencing depression, either now or in the future.

Would you like to read this information?

○ Yes ○ No

Section 6 Part 3: About seeking help for depression.

Please click 'NEXT' at the bottom of this page to finish the survey and save your survey responses.

How to tell if you have depression

Depression affects people in different ways and can cause a wide variety of symptoms.

They range from lasting feelings of sadness and hopelessness, to losing interest in the things you used to enjoy and feeling very tearful. Many people with depression also have symptoms of anxiety.

There can be physical symptoms too, such as feeling constantly tired, sleeping badly, having no appetite or sex drive, and complaining of various aches and pains.

The severity of the symptoms can vary. At its mildest, you may simply feel persistently low in spirit, while at its most severe depression can make you feel suicidal and that life is no longer worth living.

Most people experience feelings of stress, sadness or anxiety during difficult times. A low mood may improve after a short time, rather than being a sign of depression.

When to see a doctor

It's important to seek help from your GP if you think you may be depressed. Many people wait a long time before seeking help for depression, but it's best not to delay. The sooner you see a doctor, the sooner you can be on the way to recovery.

Treating clinical depression

Treatment for depression usually involves a combination of medicines, talking therapies and self-help. The type of treatment your doctor recommends will be based on the type of depression you have. Below is a short description of the types of treatment your doctor may recommend.

Mild depression

- **wait and see** – if you're diagnosed with mild depression, your depression may improve by itself. In this case, you'll simply be seen again by your GP after two weeks to monitor your progress. This is known as watchful waiting.
- **exercise** – there is evidence that exercise may help depression and it is one of the main treatments if you have mild depression. Your GP may refer you to a qualified fitness trainer for an exercise scheme.
- **self-help groups** – talking through your feelings can be helpful. You could talk either to a friend or relative, or you can ask your GP to suggest a local self-help group. Your GP may also recommend self-help books and online cognitive behavioural therapy (CBT).

Mild to moderate depression

- **talking therapy** – if you have mild depression that isn't improving, or you have moderate depression, your GP may recommend a talking treatment (a type of psychotherapy). There are different types of talking therapy for depression, including cognitive behavioural therapy (CBT) and counselling. Your GP can refer you for talking treatment or in some parts of the country you might be able to refer yourself.

Moderate to severe depression

- **antidepressants** – antidepressants are tablets that treat the symptoms of depression. There are almost 30 different kinds of antidepressant. They have to be prescribed by a doctor, usually for depression that is moderate or severe.
- **combination therapy** – your GP may recommend that you take a course of antidepressants plus talking therapy, particularly if your depression is quite severe. A combination of an antidepressant and CBT usually works better than having just one of these treatments.
- **mental health teams** – if you have severe depression, you may be referred to a mental health team made up of psychologists, psychiatrists, specialist nurses and occupational therapists. These teams often provide intensive specialist talking treatments as well as prescribed medication.

Getting help

Your first port of call should be your GP, who can refer you for NHS talking treatments for depression available locally.

In some parts of the country, you also have the option of self-referral. This means that if you prefer not to talk to your GP, you can go directly to a professional therapist.

To find out what's available in your area, visit the counselling and psychological therapies directory on the NHS Choices website by copying and pasting the following link into a new web browser window: http://www.nhs.uk/Service-Search/Psychological-therapies-%28IAPT%29/LocationSearch/10008

This information is from the NHS Choices website. The link to the full website is http://www.nhs.uk/conditions/depression/Pages/Introduction.aspx (please copy and paste into a new web browser window)

Appendix C: Consent Form

For students recruited through the School of Psychology Research Participation System:

Beliefs about help-seeking for depression

There are 28 questions in this survey

Consent Form

Thank you for considering taking part in this important research about attitudes towards depression and seeking help.

We are currently recruiting men and women who:

1. Are aged 18 or over
2. Have never sought professional advice and/or treatment for depression (e.g. medication, counselling, psychotherapy).

The goal of this project is to better understand people's beliefs about depression and about seeking help. **You do not have to have depression, or to have experienced depression in the past, in order to take part.**

The survey will ask about your background (e.g. age, education), your beliefs about depression and seeking help for depression, and some questions about how you would describe yourself as a person. Some questions concern personal topics, for example, whether you have experienced symptoms of depression. These questions are needed because we are asking people with a range of experiences to do the survey and these questions can help us better understand the factors that influence beliefs about depression and seeking help. **However you are free to omit any questions you do not wish to answer or withdraw from the study at any time by closing the window.** The survey takes 15-20 minutes to complete. You will be awarded half a credit for taking part in this study.

The project has received approval from the Ethics Committee at the University of Exeter. The project is being conducted by Bethan Williams (Trainee Clinical Psychologist) at the University of Exeter, under the supervision of Dr. Nick Moberly, Senior Lecturer, University of Exeter.

Your participation in this survey is completely voluntary. The data provided by you will be held anonymously and only the research team (i.e. Bethan Williams and Nick Moberly) will have access to the data. The anonymous data will be retained indefinitely in accordance with the Data Protection Act 1998 and stored on a computer that is password-protected and belongs to the researcher.

If you have any questions about this research:

- Between now and September 15th 2016: Please contact Bethan Williams (email bf255@exeter.ac.uk)
- After September 15th 2016: Please contact Nick Moberly (email N.J.Moberly@exeter.ac.uk or tel 01392 724656).

To participate in the survey, please read the following two statements. **In order to be eligible to complete this survey your answer to each statement must be YES**. If your answer to each statement is YES please tick the boxes and then click next. If for either of these statements your answer is NO then please exit the survey by closing the window.

I am aged over 18 years and freely consent to participate:

*

Please choose **all** that apply:

☐ YES

I have never sought professional advice and/or treatment for depression (e.g. medication, counselling, psychotherapy): *

Please choose **all** that apply:

☐ YES

For participants recruited from sources other than the School of Psychology Research Participation System:

Beliefs about help-seeking for depression

There are 29 questions in this survey

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Thank you for considering taking part in this important research about attitudes towards depression and seeking help.

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The survey will ask about your background (e.g. age, education), your beliefs about depression and seeking help for depression, and some questions about how you would describe yourself as a person. Some questions concern personal topics, for example, whether you have experienced symptoms of depression. These questions are needed because we are asking people with a range of experiences to do the survey and these questions can help us better understand the factors that influence beliefs about depression and seeking help. **However you are free to omit any questions you do not wish to answer or withdraw from the study at any time by closing the window.** The survey takes 15-20 minutes to complete.

The project has received approval from the Ethics Committee at the University of Exeter. The project is being conducted by Bethan Williams (Trainee Clinical Psychologist) at the University of Exeter, under the supervision of Dr. Nick Moberly, Senior Lecturer, University of Exeter.

Your participation in this survey is completely voluntary. The data provided by you will be held confidentially and only the research team (i.e. Bethan Williams and Nick Moberly) will have access to the data. To thank you for your time, you will be entered into a prize draw for one of two £100 Love2Shop vouchers. We will ask for your email address so that you can be entered into the draw. Your email address will be stored in a separate file to the data and not linked to the data in any way. Your email address will not be used for **any** purpose other than the prize draw and will be deleted when a winner for the prize draw has been randomly selected at the end of the study. The anonymous data will be retained indefinitely in accordance with the Data Protection Act 1998 and stored on a computer that is password-protected and belongs to the researcher.

If you have any questions about this research:

- Between now and September 15th 2016: Please contact Bethan Williams (email bf255@exeter.ac.uk)
- After September 15th 2016: Please contact Nick Moberly (email N.J.Moberly@exeter.ac.uk or tel 01392 724656).

To participate in the survey, please read the following two statements. **In order to be eligible to complete this survey your answer to each statement must be YES**. If your answer to each statement is YES please tick the boxes and then click next. If for either of these statements your answer is NO then please exit the survey by closing the window.

I am aged over 18 years and freely consent to participate: *

Please choose **all** that apply:

☐ YES

I have never sought professional advice and/or treatment for depression (e.g. medication, counselling, psychotherapy): *

Please choose **all** that apply:

☐ YES